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SUPPORTING FORESTS AND BIODIVERSITY

FINAL REPORT

2012-2018



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**FINAL REPORT
2012 - 2018**

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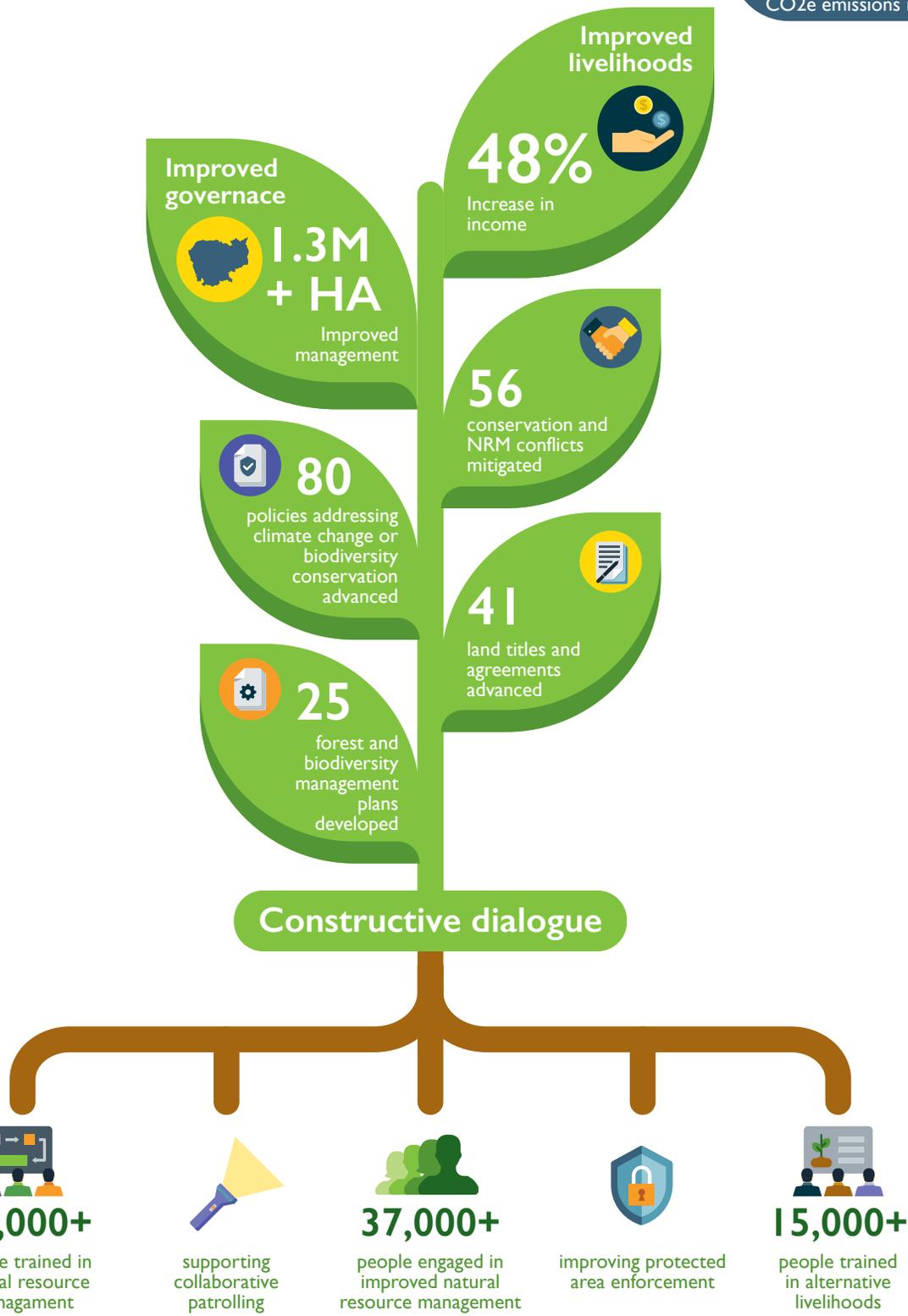
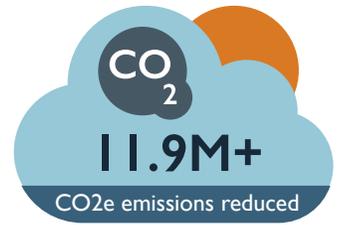
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USAID Cambodia

supporting forests and biodiversity project



A photograph of a lush, green forest. The scene is filled with tall, slender trees and a dense carpet of green undergrowth. Sunlight filters through the canopy, creating a bright and vibrant atmosphere. The text "EXECUTIVE SUMMARY" is overlaid in the center-left of the image.

EXECUTIVE SUMMARY



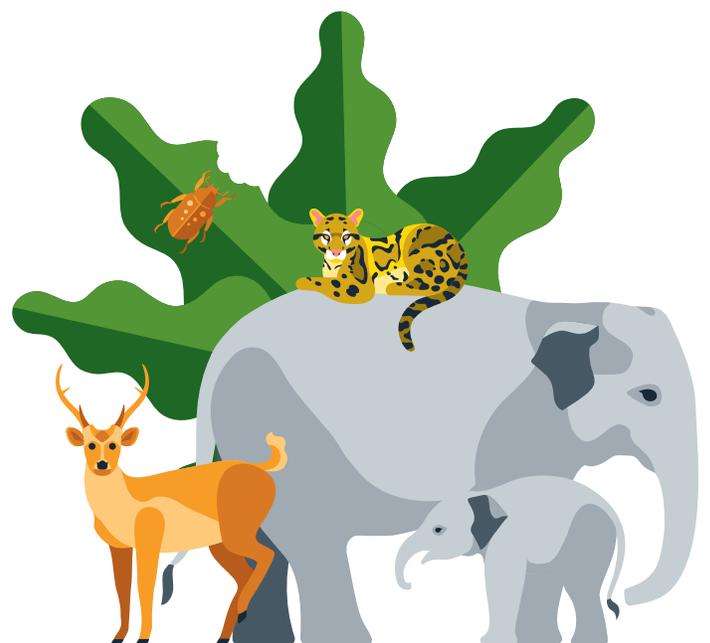
Over five and a quarter years, the United States Agency for International Development’s Supporting Forests and Biodiversity (USAID SFB) project delivered meaningful results that improved the conservation and governance of forest landscapes in Cambodia in order to mitigate climate change and conserve biodiversity.

Within the two target geographies of the Prey Lang and Eastern Plains landscapes, the USAID SFB project significantly improved the participation of local communities and other stakeholders in forest management decisions. At the local, sub-national and national levels, the project worked towards three interlinked objectives to:

1. Enhance the effectiveness of the government and other natural resource managers at national and sub-national levels to sustainably manage forests and conserve biodiversity.
2. Improve constructive dialogue on forest management and economic development at the national and sub-national levels.
3. Increase equitable benefits from the sustainable management of forests.

The USAID SFB project was implemented in collaboration with the General Department for Administration of Nature Conservation and Protection (GDANCP) in the Ministry of Environment (MoE), the Forestry Administration (FA) in the Ministry of Agriculture, Forestry and Fisheries (MAFF), and through a consortium of project partners. Those partners included Winrock International, which was the primary implementing partner, as well as the Wildlife Conservation Society (WCS), World Wildlife Fund (WWF), the Center for People and Forests (RECOFTC), the East West Management Institute (EWMI), Conservation International (CI); Pact; the Group for the Environment, Renewable Energy and Solidarity (GERES); Wildlife Alliance (WA); and several small grant non-government organizations (NGOs).

Project activities were concentrated in 1) the Eastern Plains landscape (EPL), which covers an area of more than 30,000 square kilometers mainly in Mondulkiri province and contains the most extensive intact block of remaining forest in Southeast Asia; and 2) the Prey Lang landscape (PLL) in the provinces of Kampong Thom, Preah Vihear, Stung Treng, and Kratie. The EPL includes a diversity of forest types—ranging from hill evergreen to open dry forest—which support resident populations of several endangered wildlife species, including Asian elephant, leopard, dhole, white water buffalo, Eld’s deer, and Siamese crocodile. The PLL provides diverse habitats for a variety of wildlife species as well but, unlike the EPL, possessed no large protected area for sustainable forest management or biodiversity conservation until the Prey Lang Wildlife Sanctuary (PLWS) was designated in May 2016.





This final report summarizes how the USAID SFB project addressed complex challenges within the Cambodian environment and natural resources management (NRM) sector while operating through a period of significant governmental reform. By working extensively at all levels—national, sub-national and local—USAID SFB brought about a truly holistic, landscape approach to natural resource management and biodiversity protection that is unprecedented in its geographic scale across Cambodia. Among the results detailed, several notable achievements stand out:

Designation of the Prey Lang Wildlife Sanctuary. Supporting the Royal Government of Cambodia (RGC) at national and sub-national levels for sustainable forest governance, the project played a critical role in the official designation of the new 431,683-hectare Prey Lang Wildlife Sanctuary in May 2016. Shortly after jurisdictional authority over a portion of the PLL shifted from the Forestry Administration to the Ministry of Environment, USAID SFB developed a comprehensive awareness campaign and worked closely with the Ministry of Environment to help designate the PLWS, now the largest protected area (PA) in Cambodia.

Policy Reform. USAID SFB guided revisions to the forestry and protected area laws and facilitated the inclusion of major inputs from a range of stakeholders into the recently drafted Cambodian Environmental Code, a piece of potentially nationally

transformative legislation. The project also supported the implementation of Circular No. 5 and sub-decree 156, directives that devolve significant decision-making power to sub-national authorities on governance of natural resources.

Improved landscape governance. The project collaborated closely with government and forest communities to bring a total of 1.3 million hectares of biological significance under improved management. Conservation agreements (CAs) were established with communities in Prey Lang to protect and conserve wildlife habitat over the long term through patrolling and sustainable livelihood activities. The conservation agreements resulted in improved law enforcement, a major outcome best highlighted by the significantly closer relationships the project helped foster between community patrol groups, the Forestry Administration and the Ministry of Environment. Across both landscapes, a total of 41 land titles and land agreements were advanced through the legal establishment and registration processes for community forests (CFs), community protected areas (CPAs), and indigenous communal land titles (ICTs), improving land tenure for these forest communities.

Enhanced constructive dialogue on natural resource management. USAID SFB mitigated over 50 conflict cases and improved relationships between stakeholders through constructive dialogue efforts. The project



The Keo Seima REDD+ Project is projected to prevent emission of more than 14 million metric tons of CO₂ equivalent over its first 10-year period (2010 through 2019).

supported communities to handle challenges such as economic land concessions and land encroachment, and to reduce illegal activities with active support from government officers. Capacity building enabled stakeholders to intervene by themselves while seeking support from competent authorities. Dialogue was also enhanced thanks to a set of radio programs, broadcast at provincial and national levels, that informed audiences how to take action to protect and conserve forests. Additional awareness raising and environmental education activities granted better knowledge and encouraged stakeholders to take actions to protect the forest. In addition, 25 sustainable forestry and biodiversity management plans were developed through participatory processes, including comprehensive plans for management of both Phnom Prich and Srepok Wildlife Sanctuaries.

Increased incomes from sustainable livelihoods. Working at the grassroots level, USAID SFB helped build the capacity of over 15,000 people (51 percent of whom are women) in developing alternative livelihood practices. The project set up resin, honey, bamboo and ecotourism enterprises and promoted improved techniques for raising crops and livestock, which contributed to an increase in income of 47.7 percent from these activities in target communities over the life

of the project. The project allocated small grants to local organizations, building their capacity so they could set up sustainable livelihood interventions for beneficiaries in the PLL. As a result, beneficiaries improved their income, skills, and knowledge of forest resources, and participated more in forest management.

Knowledge management and data sharing. Over the life of the project, USAID SFB supported improvements in the Open Development Cambodia (ODC) website and greatly increased its user base and influence. Originally only in English, the site now features all content, including the database and maps, in both English and Khmer. The new Generation II ODC website offers improved functionality, particularly in the map explorer and the comprehensive knowledge archive network (CKAN) database, and features an expanded section and profile pages on economic land concessions, an enhanced library that includes an expanded section on laws, policies and agreements, and nearly 100 pages of new briefings that cover 17 topical areas. Site visits have grown from 17,500 per to an average of 30,000 per month, and ODC pages and reports have been cited widely. Both SciDev.Net and Reuters recognized ODC as the premier open data platform and pro-transparency website in the country, and the organization pages and databases have been cited frequently by publications and case studies by other non-government organizations and think tanks.

Capacity of government and local organizations increased. USAID SFB trained over 13,000 people in improved natural resource management practices, including government rangers in protected areas, community forest and community protected area members, civil society representatives government staff from the Ministry of Environment and Forestry administration at national and local levels, as well as a range of sub-national authorities at the provincial, district and commune levels.



Sale of first Cambodian carbon credits. Participating in the reducing emissions from avoided deforestation and degradation (REDD+) approach, the Keo Seima REDD+ project achieved great success. Supported by USAID SFB, the project was validated under two voluntary carbon offset standards and culminated in the first sale of Cambodian REDD+ carbon credits from a climate change mitigation project. This sale via the voluntary carbon credit market provides vital conservation funding for the coming years. Funds will be distributed through the project's benefit-sharing mechanism, thus providing additional revenues to communities in the REDD+ area, in addition to assisting in safeguarding their forest resources. The buyer, Disney, will use the carbon credits to reduce their greenhouse gas (GHG) emissions footprint and help contribute to their target of 50 percent net emissions reduction by 2020. The Keo Seima REDD+ project is projected to prevent emission of more than 14 million metric tons of carbon dioxide equivalent (CO₂e) over its first 10 years, 2010–2019.

The Watershed Environmental Services Tool (WESTool). To help decision makers better understand the impacts of management decisions on natural resource use, USAID SFB and Winrock developed the WESTool to enable users to estimate the impacts of land use changes on ecosystem services across the country. The WESTool is an innovative new web-based technology developed by the Winrock Ecosystem Services Unit to help decision makers in Cambodia better understand how land use policies and actions affect the environment. The tool allows users to analyze any area of Cambodia, from a single economic land concession (ELC) to entire watersheds. With the WESTool, users can estimate the environmental impact of land use changes, including their effect on existing carbon stocks, greenhouse gas emissions, sediment and nutrient loss from erosion, ground water recharge, and changes in water quality and quantity. The WESTool was completed after two years of research, analysis and stakeholder engagements that culminated in an open source online interactive map.

Coming Together for Forests (CTF). The Coming Together for Forests initiative brought together community and local government leaders—representing 80 forest communities from 21 provinces—to engage in sustained learning, exchange, and dialogue about critical

issues with Cambodia's forests and natural resources at the community level. Over the course of two years, the initiative facilitated learning network meetings and information exchange conference calls, during which participants with different backgrounds and experiences established and developed relationships of mutual trust and understanding, leading to constructive dialogues with multiple stakeholders around identified forest management cases. CTF participants increased their trust, confidence, and ability to collaborate and connect with different stakeholders to address forest-related issues in their respective communities. This initiative resulted in perhaps the first truly integrated approach to landscape management in Cambodia. While this approach was hugely challenging as well as politically and logistically complex, it yielded a key lesson based on over five years of implementation: strong and cohesive relationships with national and sub-national authorities are crucial to meaningful and sustainable progress. The new operating environment of devolved responsibility to the provincial levels is not without peril, but, with adequate political and technical support, is very much an opportunity for meaningful action and progress on the conservation of Cambodian biodiversity and sustainable management of its natural resources.

Royal Order of Sahametrei: In recognition of its efforts implementing the USAID SFB project since 2012, Winrock International was awarded the Royal Order of Sahametrei by the Cambodian government. This award, signed by Cambodian Prime Minister Samdech Hun Sen, is the highest honor the country bestows upon foreigners and recognizes outstanding service to the king and people of Cambodia in the fields of external relations or diplomatic services. In particular, the award recognizes USAID SFB's contribution to protecting biodiversity and improving natural resource management.

Accomplishments

The following table provides details of USAID SFB's performance as measured against indicators. With the exception of one indicator that had an achievement rate of 95.4 percent, USAID SFB achieved 100 percent or above, up to 149 percent, for every indicator over the life of the project.

Table I: Performance Against Indicators

Indicator	Target	LOP Achievement	% to Target
Deforestation rate in Eastern Prey Lang decreased	75% Below Baseline	83.8% Below Baseline	111.70%
Hectares of biological significance and/or natural resources under improved natural resource management	1,345,000	1,347,583	100.19%
Number of hectares of biological significance and/or natural resources under improved natural resource management maintained	492,800	495,333	100.51%
Greenhouse gas (GHG) emissions, estimated in metric tons of CO ₂ e, reduced, sequestered, and/or avoided	8,000,000	11,981,504	149.77%
Number of stakeholders actively engaged in improved forestry management practices	35,000	37,699	107.71%
Population numbers of Endangered Flagship species stable	Stable	Stable	100.00%
Number of scientific assessments of key species and ecosystems completed	4	4	100.00%
Number of land titles and agreements advanced	40	41	102.50%
Number of people receiving training in natural resources management and/or biodiversity conservation	12,740	13,125	103.02%
Number of people receiving USG training to maintain skills in natural resources management and/or biodiversity conservation	65	96	147.69%
Number of people trained in climate change adaptation	1,135	1,155	101.76%
Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change and/or biodiversity conservation officially proposed, adopted, or implemented	82	82	100.00%
Number of conservation and NRM conflicts mitigated or acted upon	55	56	101.82%
Number of sustainable forestry and biodiversity management plans developed using participatory national and sub-national planning processes	25	25	100.00%
Number of human rights defenders trained and supported	135	137	101.48%
Number of people with increased economic benefits derived from sustainable natural resources management and conservation	138,300	138,636	100.24%
Increase in income levels of target communities due to economically viable alternative livelihood activities	50%	48%	95.40%
Number of Payment for Environmental Services (PES) agreements approved and implemented	5	5	100.00%
Number of people participating in income generating activities	15,000	15,168	101.12%

A photograph of two gibbons in a lush green forest. One gibbon, with black and white fur, is perched on a branch on the left, looking towards the camera. The other gibbon, mostly black with a white chest, is perched on a branch to the right, looking down. The background is filled with dense green foliage and tree branches.

INTRODUCTION AND BACKGROUND



Cambodia stands at a crossroads between maintaining accelerated economic growth and preserving natural resources. Despite possessing one of the highest deforestation rates in the world, Cambodia has begun to embark on significant legislative reform that, with adequate ongoing investment, has the potential to safeguard its extraordinary and unique natural heritage for future generations.

In November 2012, Winrock International was awarded a four-year, \$20-million cooperative agreement by the USAID Mission in Cambodia to implement the Supporting Forests and Biodiversity project. Two costed extensions followed, increasing the financial support to nearly \$25 million, while extending the time of implementation to approximately five and a quarter years. The project was implemented in close collaboration with the Forestry Administration, the Ministry of Agriculture, Forestry and Fisheries, and the General Department for Administration of Nature Conservation and Protection in the Ministry of Environment, and through a diverse consortium of project partners.

The project's overarching goal was to improve the conservation and governance of the two most extensive forest landscapes in the country, the Prey Lang landscape and the Eastern Plains landscape, in order to mitigate climate change and conserve biodiversity. The project increased the participation of local communities, as well as other stakeholders, in forest management decisions and helped build the capacity of communities and officials of sub-national and national authorities to achieve three interlinked objectives that cut across project elements. Specifically, these objectives aimed to:

1. Enhance the effectiveness of government and other natural resource managers at national and sub-national levels to sustainably manage forests and conserve biodiversity.
2. Improve constructive dialogue on forest management and economic development at the national and sub-national levels.
3. Increase equitable benefits from the sustainable management of forests.

Years 1–4 of the project covered all three objectives, while the first and second extension periods focused on a limited subset of these objectives. The project completed constructive dialogue activities (objective 2) in years 1–4. The first extension emphasized improved governance (objective 1), providing support to Royal Government of Cambodia counterparts during a period that included 1) the transition of responsibility for all protected area management from the Ministry of Agriculture, Forestry and Fisheries to the Ministry of Environment and 2) the decentralization of natural resource management to sub-national administrations. In addition, the first extension provided limited support for activities to finalize market linkages for livelihood groups (objective 3). The second extension period covered improved governance (objective 1), focusing on supporting rangers and community networks to strengthen forest protection efforts, as well as identifying climate change adaptation (CCA) and natural resource management priorities and integrating them into local commune development plans (CDPs).



A Brief History of Forest Management and Protected Areas in Cambodia

The evolution of protected areas and natural resource management in Cambodia is closely linked to political history. This is as evident today as it was in 1925 when the country first designated Angkor Wat and 10,800 ha of surrounding forest as a national park, creating the first protected area in the country and in fact in all of Southeast Asia. The French colonialists conducted a wealth of surveys, defining a total of 37 important forest types and wildlife areas. By the end of the 1950s, almost a third of the country was designated into 173 forest reserves covering 3.9 million hectares and six wildlife reserves covering 2.2 million hectares. The majority of the country remained uninhabited and the population relied heavily on subsistence livelihoods and sustainable use of common natural resources.

During King Sihanouk's reign from 1953 to 1970, protected areas were strongly promoted as important economic and cultural national assets. The government allocated staff and management resources to six national parks and wildlife sanctuaries and established significant infrastructure for tourism and recreational use in some parks, particularly in the southwest, which was easily accessible from the capital Phnom Penh. The genocidal Khmer Rouge regime of 1975 to 1979 saw economic collapse, despite significant infrastructure development, with many attempted reservoirs and irrigation systems never becoming operational. The regime destroyed or abandoned established recreational and tourist infrastructure and erased all reference to protected areas from government records. Significant logging and poaching of wildlife took place during this period, together with conversion of large areas of forest to agriculture.

The past four decades have seen the country emerge from the Khmer Rouge regime that claimed 1.7 million lives and a civil war that continued until 1993, during which time the country was politically and economically isolated, with large parts of the country deemed unsafe due to guerrilla warfare. With peace came a new initiative to re-establish the protected area network after 20 years of civil war had wiped out any semblance of government or traditional use or ownership of natural resources. This culminated with King Sihanouk designating 23

new protected areas by royal decree in 1993 in an effort to protect the nation's unique vegetation patterns and forest types, building on and expanding what the French had earlier established. However, extensive extractive logging licenses were granted to the private sector, resulting in massive deforestation of up to 180,000 ha per year in forests falling outside of the protected area network. The human population has since doubled to over 16 million and continues to grow, accompanied by significant agricultural and urban expansion. Over 80 percent of the population still relies on agriculture for much of their livelihood.¹

In 2016, the most significant reforms in a generation on the protected areas system took place: the transfer of all six protected forests from the Forestry Administration, under the Ministry of Agriculture, Forestry and Fisheries, to the Ministry of Environment. This transfer increased the total area of the protected areas estate from 4.6 to 7.5 million hectares, or from approximately 26 to 41 percent of Cambodia's land area. The current protected areas network now encompasses the 23 areas set up by royal decree in 1993, the six protected forests transferred to the Ministry of Environment in 2016, and numerous smaller protected areas oriented around the conservation and protection of cultural heritage sites.

Despite ambitious goals and targets to maintain forest cover and nearly 50 designated protected areas, Cambodia's forests continue to be affected by land-use changes and deforestation. Recent reforms and investment in human capital and resources have largely taken place at the national level, leading to inconsistent levels of forest protection, conservation and natural resource management at the local level across the PA network. A number of protected areas have received long-term technical and financial support from the conservation community, although many others receive little or no investment other than the modest direct support for salaries from the central level.

Cambodia's protected area network now covers approximately 41 percent of the country, the majority of which is now under the authority of the Ministry of

¹ ICEM. 2003. *Lessons learned in Cambodia, Lao PDR, Thailand and Vietnam: Review of Protected Areas and Development in the Lower Mekong River Region. Indooroopilly, Queensland, Australia.*

Environment, with community forests and community fisheries under the management of the Ministry of Agriculture, Forestry and Fisheries. Despite covering significant areas of the country, protected areas are still not widely recognized as providing economic returns, nor are they identified as priorities for investment, or allocated adequate funding for their day-to-day management and operations. Some functional aspects are beginning to be incorporated into sectoral plans and strategies, for example REDD+ in the National Forest Plan, 2010–2029 as well as numerous ecotourism initiatives and payment for ecosystem services mechanisms, which will generate sustainable financial revenues for ongoing protected area management.

Cambodia’s Vulnerability to Climate Change

The Cambodian landscape is among the most vulnerable areas in Southeast Asia to climate change. Climate modeling analyses indicate that Cambodia is likely to experience a shorter, more intense wet season and a longer, hotter dry season. This has significant implications for natural resource management, including the agriculture, forestry and fisheries sectors, which together represent almost a third of the national gross domestic product (GDP). USAID SFB’s target landscapes in particular are forecast to experience above the national average level of projected warming, with temperature increases of up to 5 degrees Celsius in northern inland areas, such as parts of the Prey Lang landscape.

Current global climate change models forecast an average annual temperature worldwide to rise 2 degrees Celsius by 2050. However, projections are far more extreme for the future of the Lower Mekong Basin (LMB), with some areas, including Cambodia’s Eastern Plains, expecting average annual temperature increases of 4–6 degrees Celsius.² The integrity of forest and wetland ecosystems is of critical importance to the natural resilience and adaptive capacity of most of the non-timber forest products (NTFPs) as well as species of many common wild relatives (CWRs) of common crops. Analyses show that when a system that is degraded, diminishing in size, and under increasing stress (anthropogenic or climate

driven) from various pressures, it is less resilient to climate changes and shocks and has less capacity to withstand or recover from them. Increases in temperature are thus a significant threat to NTFPs and CWRs—particularly if temperature increases occur during the flowering, fruiting, and seed dispersal times of year.

The USAID SFB target landscape of the Eastern Plains will be particularly prone to greater daily maximum and minimum temperature increases, with highland areas likely to experience some of the largest increases in temperature within the Lower Mekong Basin, with annual temperatures rising by 12–16 percent. Warming surface temperatures, combined with other natural and anthropogenic stresses, are likely to increase risk of extinction for many species across Asia, with high likelihood of significant dieback of tropical forests in some parts of the region. In addition, climate change is expected to change disturbance regimes within forest communities, affecting the frequency and intensity of pest outbreaks and wildfire, while changes in the distribution and health of rainforest and drier monsoon forest will be complex.

Despite these projected temperature rises, Cambodia has relatively limited exposure and sensitivity to climate hazards such as typhoons and extreme weather events compared to its neighbors, but extremely low levels of adaptive human capacity mean that the country is nevertheless among the most vulnerable in Southeast Asia. The adaptive capacity to climate changes, variability and extremes are affected by many factors, including wealth, technology, education, information, social capital and institutions. Protection of existing forest ecosystems is perhaps the most economical and practical response to a changing climate, both in terms of mitigating the effects and retaining or increasing the adaptive capacity of the system to respond to likely changes or extreme weather events.

² *Development Alternatives, Inc. 2016. USAID Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC): Final Report. Bangkok: USAID.*



PROJECT OVERVIEW





The USAID SFB project was implemented in collaboration with the General Department for Administration of Nature Conservation and Protection in the Ministry of Environment, and the Forestry Administration in the Ministry of Agriculture, Forestry and Fisheries, and through a consortium of project partners.

Over the life of project, partners included the Wildlife Conservation Society, World Wildlife Fund, the Center for People and Forests, the East West Management Institute, Conservation International; Pact; Group for the Environment, Renewable Energy and Solidarity; Wildlife Alliance; and several small grant NGOs, including Mlup Baitong, Action For Development (AFD), Culture and Environment Preservation Association (CEPA), Cambodian Rural Development Team (CRDT), Forest and Livelihood Organization (FLO), Ponlok Khmer (PKH), Prom Vihear Thor Organization (PVT), and Media for Education and Development In Action (MEDIA One).

Goals and objectives. The goal of the USAID SFB project was to improve conservation and governance of the two most extensive yet threatened forest landscapes in the country, the Eastern Plains and Prey Lang landscapes, to decrease the rate of deforestation, mitigate climate change, and conserve biodiversity by building the capacity of forest community members to improve forest management decisions and by building the capacity of government officers to support these efforts.

The project focused on improving the participation of local communities and other stakeholders in forest management decisions, as well as building the capacity of communities and officials of sub-national and national authorities, through the three inter-linked objectives mentioned earlier.

USAID SFB theory of change. Lasting change requires action across multiple geographic scales with the participation of the full range of stakeholders.

USAID SFB target landscapes. Project activities were

concentrated across two landscapes: the Eastern Plains landscape, which lies largely in Mondulkiri province and covers an area of more than 30,000 square kilometers, including one of the most extensive intact blocks of remaining forest in Southeast Asia; and the Prey Lang landscape, an area that spans four provinces in north-central Cambodia and includes Cambodia's newest protected area.

The **Prey Lang landscape** lies to the west of the Mekong river in north-central Cambodia and stretches over an area of approximately half a million hectares of remaining forest across the four provinces of Kratie, Stung Treng, Preah Vihear and Kompong Thom. It provides a critical catchment area that feeds into the Tonle Sap and Mekong river systems, which in turn support one of the world's largest inland fisheries and provide over 80 percent of the Cambodian population's protein. Studies have shown Prey Lang plays an important regulatory role in the Mekong river's hydrology, further highlighting the need for careful management of the area. Prey Lang supports seven distinct forest ecosystems, including semi-evergreen and deciduous forests, and the largest lowland forest remaining in Cambodia and possibly in the Indo-Burma Region. Prey Lang also has extremely high carbon sequestration values, including its important swamp forests, few of which remain in the region. There are more than three hundred communities within the PLL, many of them belonging to the indigenous Kuy minority; indeed, "Prey Lang" means "Our Forest" in the Kuy language. The forest provides much of what local communities need for their livelihoods and is also fundamental to social traditions and religious beliefs. However, due to relatively flat topography, rich alluvial soils, relative proximity to urban centers and expansion of large-scale agribusiness, the forests of Prey Lang have come under immense pressure in recent years.

The vast **Eastern Plains landscape** covers over 30,000 square kilometers, mainly in Mondulakiri province but also extending into Ratanakiri, Kratie and Stung Treng provinces. Mondulakiri province covers the bulk of the EPL and is characterized by extremely low human population density and a mosaic of diverse habitat types, from the dry forest plains of the lower Mekong in the west, rising in elevation to the southern Annamite mountain range in the east. Deciduous dipterocarp (DDF) forest is dominant at lower elevations, noted for its relatively open canopy and grassy understory, while tropical evergreen forest can be found at higher elevations along with increased rainfall levels. Seasonal wetlands, bamboo forests and natural grasslands are interspersed throughout the landscape. Several nomenclatures have noted the outstanding biodiversity values of the area, which was included as a part of the Critical Ecosystem Partnership Fund's (CEPF) Indo-Burma Hotspot and part of 200 global ecoregions identified by WWF. Mondulakiri's two protected areas—Srepok Wildlife Sanctuary, covering 363,177 ha, and Phnom Prich Wildlife Sanctuary, covering 222,500 ha—contain a large diversity of habitats ranging from hill evergreen to open dry forest, and support resident populations of many endangered species including Asian elephant, tiger, leopard, banteng, Siamese crocodile, and Eld's deer as well as several endangered large waterbirds and vultures. More than ten indigenous groups are native to the EPL, most prominently the Bunong people, but also Cham, Stieng and Lao minority groups who live within or on the fringes of protected areas. The EPL is rich in mineral resources, with economically significant deposits of gold, bauxite and other valuable minerals.

Illegal extraction of luxury hardwoods to supply the illicit and highly lucrative international market is a nationwide problem and is an ongoing challenge to the management of both target landscapes and Cambodia's forests at large.

Project evolution. The first four years of the project implemented activities under all three of the project's major objectives, while the first and second extension periods had a more limited focus.

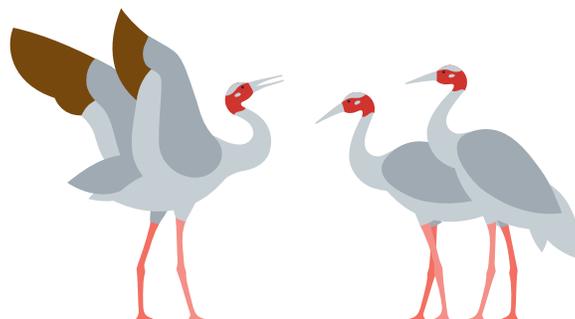
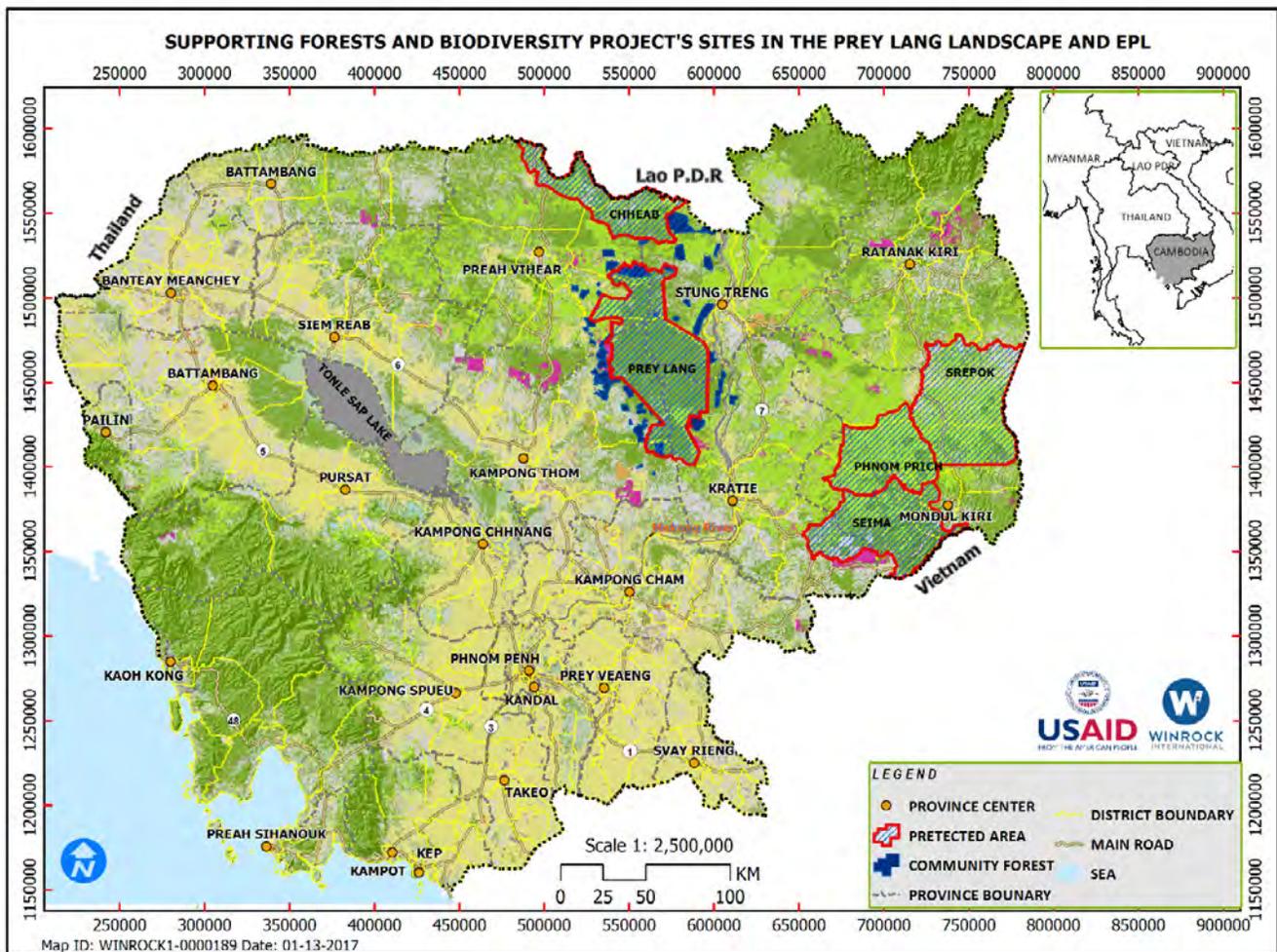
In years 3-4, the project expanded support to protected areas, including camera trapping and SMART data collection in order to contribute to long-term monitoring

of endangered species populations. During the project's second extension period, improved governance activities supported government forest rangers and community networks patrolling within the Prey Lang Wildlife Sanctuary; CF members patrolling their community forests in the PLWS buffer zone; and subnational administrators, government rangers and community groups co-patrolling forested areas both inside and outside the PLWS. Additional activities in both the Prey Lang and Eastern Plains landscapes focused on identifying climate change adaptation and natural resource management priorities and integrating them into local commune development plans. The USAID SFB project was awarded a costed extension of nine months, taking the project through August 8, 2017, and a further costed extension for six months, taking the project to a completion date of February 8, 2018. During both extension periods, technical work focused mainly on objective 1.

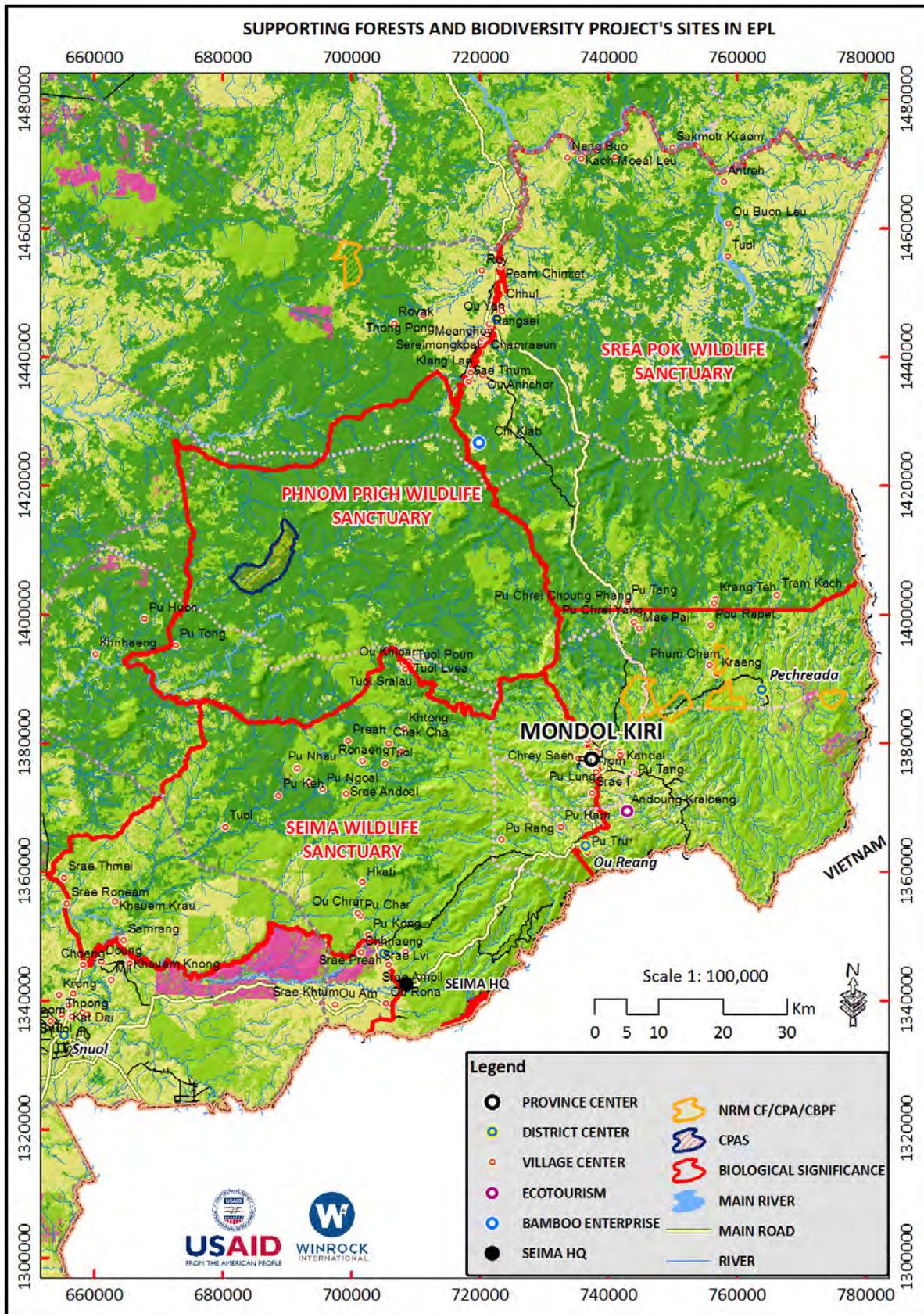
Over the five and a quarter year life of the project, the operating and political environment changed significantly, necessitating changes in project implementation practices. After the dramatic shift of jurisdictional responsibility for management of protected areas from the Forestry Administration to Ministry of Environment in 2016, the project responded with a flexible approach to adaptive management. To ensure project objectives could be met, the project immediately pivoted from primary engagement with the Forestry Administration and the Ministry of Agriculture, Forestry and Fisheries to the Ministry of Environment. The majority of national level cooperation with the Forestry Administration was scaled down, with a proportional refocus to engagement with provincial level authorities at the Forest Administration Cantonment (FAC) level, which are the designated management authority for community forests.

Target geography. The USAID SFB target geographies of the Prey Lang and Eastern Plains landscapes are illustrated in the following three maps. Map 1 shows the location of the two target geographies within Cambodia as a whole; Map 2 shows details of the Eastern Plains landscape; and Map 3 shows details of the Prey Lang landscape.

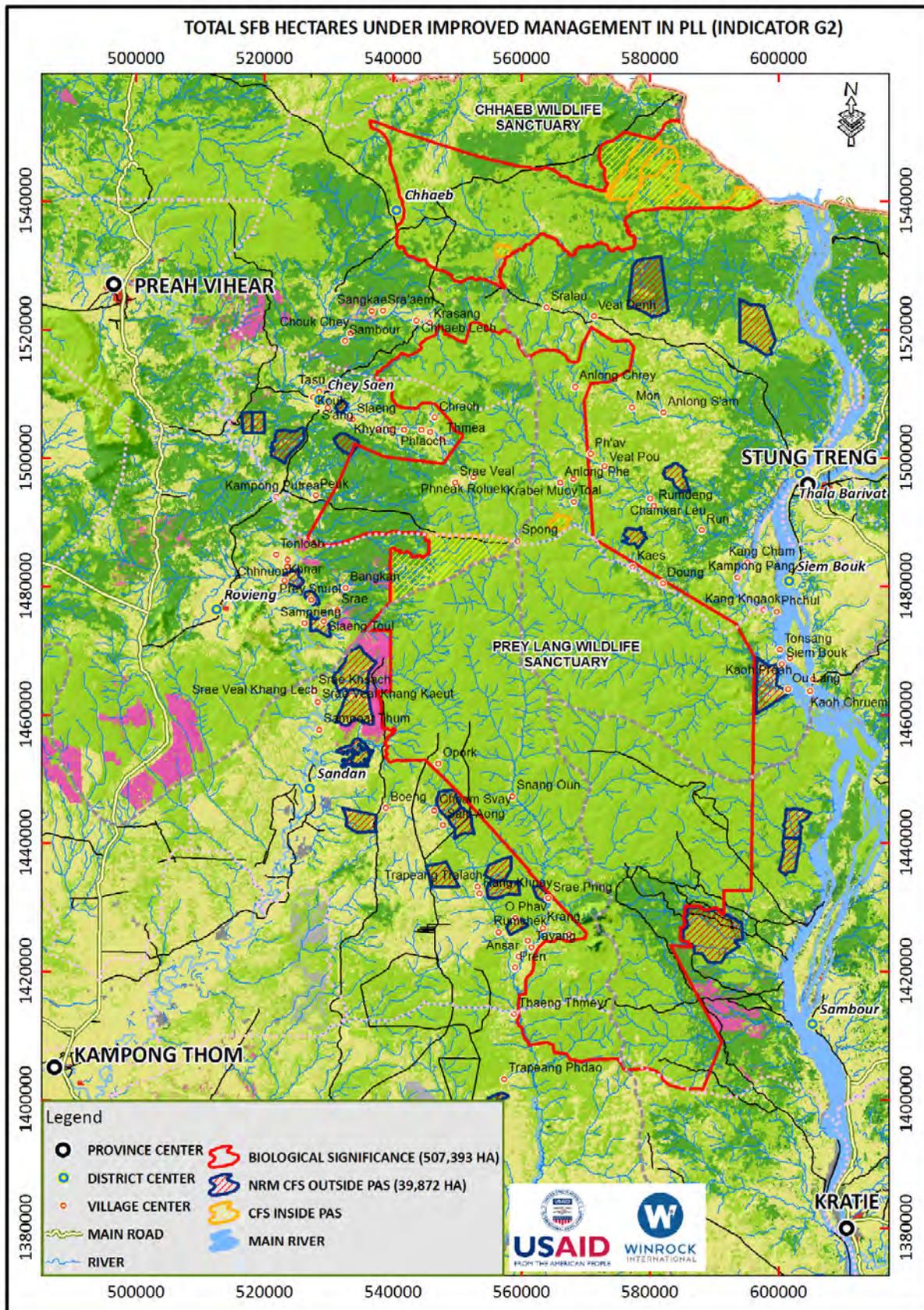
Map I. USAID SFB Target Geography – Prey Lang and Eastern Plains Landscapes



Map 2: USAID SFB Sites in the Eastern Plains Landscape



Map 3: USAID SFB Sites in the Prey Lang Landscape



Project timeline

Activities Supported By USAID SFB Project



Key partners and areas of work.

Over the life of the project, USAID SFB partnered or engaged with a total of 89 organizations or institutions, including government, civil society, community and grassroots stakeholders. These included 66 government entities across 5 provinces, 13 districts, 41 communes, 8 international NGOs, over 15 local NGOs and a number of private sector entities.

Table 2: Key Partners

For a complete breakdown of all institutions engaged by USAID SFB, please refer to Annex 2.

No.	Name of Institution	Location	Type	Level	Year of engagement					
					2012	2013	2014	2015	2016	2017
1	Ministry of Agriculture, Forestry and Fishery/Forestry Administration	Phnom Penh	Gov.	National	[Bar from 2012 to 2016]					
2	Forestry Administration Cantonment	Kampong Thom	Gov.	Sub-national	[Bar from 2013 to 2017]					
3	Forestry Administration Cantonment	Preah Vihear	Gov.	Sub-national	[Bar from 2013 to 2017]					
4	Forestry Administration Cantonment	Stung Treng	Gov.	Sub-national	[Bar from 2013 to 2017]					
5	Forestry Administration Cantonment	Kratie	Gov.	Sub-national	[Bar from 2013 to 2017]					
6	Forestry Administration Cantonment	Monduliri	Gov.	Sub-national	[Bar from 2013 to 2017]					
7	Ministry of Environment/General Department of Administration for Nature Protection and Conservation	Phnom Penh	Gov.	National	[Bar from 2013 to 2017]					
8	Department of Environment	Kampong Thom	Gov.	Sub-national	[Bar from 2015 to 2017]					
9	Department of Environment	Preah Vihear	Gov.	Sub-national	[Bar from 2015 to 2017]					
10	Department of Environment	Stung Treng	Gov.	Sub-national	[Bar from 2015 to 2017]					
11	Department of Environment	Kratie	Gov.	Sub-national	[Bar from 2015 to 2017]					
12	Department of Environment	Monduliri	Gov.	Sub-national	[Bar from 2013 to 2017]					
NGO Name										
67	World Wide Fund for Nature (WWF)	Phnom Penh, Monduliri	NGO	International	[Bar from 2012 to 2017]					
68	Wildlife Conservation Society (WCS)	Phnom Penh, Monduliri	NGO	International	[Bar from 2012 to 2017]					
69	East West Management Institute (EWMI)+ODC	Phnom Penh, Kratie, Kampong Thom, Preah Vihear, Stung Treng	NGO	International	[Bar from 2012 to 2016]					
70	The Center for People and Forests/Regional Community Forestry Training Center (RECOFTC)	Phnom Penh, Kratie, Kampong Thom, Preah Vihear, Stung Treng, Monduliri	NGO	International	[Bar from 2012 to 2017]					
71	Pact Cambodia (Pact)	Nationwide	NGO	International	[Bar from 2014 to 2017]					
72	Conservation International (CI)	Kratie, Kampong Thom, Preah Vihear, Stung Treng	NGO	International	[Bar from 2015 to 2016]					
73	Wildlife Alliance (WA)	Kratie, Kampong Thom, Preah Vihear, Stung Treng, Monduliri	NGO	International	[Bar from 2015 to 2017]					
74	Group for the Environment, Renewable Energy and Solidarity (GERES)	Kratie, Kampong Thom, Preah Vihear, Stung Treng	NGO	International	[Bar from 2015 to 2016]					
75	Action For Development (AFD)	Kampong Thom	NGO	Local	[Bar from 2015 to 2016]					
76	Community Economic Development (CED)	Kratie	NGO	Local	[Bar from 2014 to 2015]					
77	Cambodian Rural Development Team (CRDT)	Kratie	NGO	Local	[Bar from 2014 to 2016]					
78	Culture and Environment Preservation Association (CEPA)	Stung Treng	NGO	Local	[Bar from 2015 to 2016]					
79	Community Empowerment and Development Team (CEDT)	Phnom Penh, Kratie, Kampong Thom, Preah Vihear, Stung Treng, Monduliri	NGO	Local	[Bar from 2016 to 2017]					
80	Forest and Livelihood Organization (FLO)	Kratie	NGO	Local	[Bar from 2014 to 2016]					
81	Ponlok Khmer (PKH)	Preah Vihear	NGO	Local	[Bar from 2014 to 2016]					
82	Prom Vihear Thor Organization (PVT)	Stung Treng	NGO	Local	[Bar from 2014 to 2016]					
83	Cambodian NTFP Development Organization (CANDO)	Monduliri	NGO	Local	[Bar from 2014 to 2015]					
84	Elephant Livelihood Initiative Environment (ELIE)	Monduliri	NGO	Local	[Bar from 2014 to 2015]					
85	Monduliri Indigenous Peoples Association for Development (MIPAD)	Monduliri	NGO	Local	[Bar from 2014 to 2015]					
86	Mlup Baitong (MB)	Kratie, Kampong Thom, Preah Vihear, Stung Treng, Monduliri	NGO	Local	[Bar from 2014 to 2017]					
87	Media One (Media One)	Nationwide	NGO	Local	[Bar from 2014 to 2016]					
Community Based Organization										
88	Prey Lang Community Network (PLCN)	Kampong Thom, Preah Vihear, Stung Treng, Kratie	CBO	Local	[Bar from 2016 to 2017]					
89	Prey Lang Forest Community Network (PLFCN)	Kampong Thom	CBO	Local	[Bar from 2016 to 2017]					

ACTIVITY AREAS





I. PROTECTED AREAS & BIODIVERSITY



Cambodia's rich natural heritage includes a wealth of biodiversity that has global and regional significance. Although heavily pressured, Cambodia's forests not only support biodiversity, they also provide critical services, resources and provisions for Cambodia's people and its rapidly developing economy. Effective management and conservation of protected areas is vital both to protect biodiversity and to promote the long-term sustainability of Cambodia's broader economic development.

Improved protection and management of Cambodia's protected area estate and associated ecosystems is critical to long-term biodiversity conservation efforts. Protected areas play a key role in both adapting to and mitigating climate change. Effective management of protected areas is also a cost-effective climate change response strategy that helps maintain important watershed areas for downstream users and fisheries, sequesters carbon, and provides habitats for agricultural crop pollinators, wild foodstuffs and timber resources. Working closely with the Ministry of Environment as well as international NGO partners, USAID SFB supported five protected areas over the life of the project, bringing a total area of 1,347,583 hectares of biological significance under improved management.

The two target landscapes of the USAID SFB project—the Prey Lang and Eastern Plains landscapes—comprise a diverse array of habitats and forest types, ranging from evergreen, semi-evergreen, deciduous dipterocarp, and pine forests to grasslands as well as spectacular karst formations. These forest and freshwater ecosystems support a wealth of biodiversity, including endangered

species such as the Asian elephant, Eld's deer, Irrawaddy dolphin and banteng. Moreover, species inventories across several taxa continue to expand as new species of plants, reptiles, amphibians and insects are recorded.

USAID SFB and project partners worked in close collaboration with the Ministry of Environment to improve on-the-ground protection efforts through 1) improving law enforcement capacity of both local government rangers and protected area management personnel, and 2) equipping them with the scientific skills and knowledge to gather robust data on population trends of key species. As a result of USAID SFB assistance, a total of 296 government and community rangers received training and equipment to improve their capacity to protect forests and biodiversity and to strengthen their operations.

By the Numbers

1,290,847 Total hectares of biological significance under improved management

56,736 Total hectares of natural resources under improved management

5 Number of protected areas supported

298 Number of government rangers supported

11,981,504 Total Greenhouse Gas emissions avoided

5 Endangered Species Populations Stabilized

A lack of current management plans is a key constraint across the majority of Cambodia's protected areas. Together with partner NGOs, USAID SFB supported the development of 5-year management plans for target protected areas which provide frameworks for improving effectiveness and meeting conservation targets.

Endangered Species Population Monitoring

To help the Ministry of Environment and rangers better prioritize and direct resources for biodiversity conservation and protection, USAID SFB supported a suite of biodiversity surveys to establish population trends and breeding habits of several endangered flagship species, including the wild cattle banteng (*Bos javanicus*), giant ibis trends, and endangered vulture population monitoring. The project also supported other biodiversity assessments, including biodiversity assessments of revoked economic land concessions, seasonal waterholes studies, and analysis of camera trap data in Srepok Wildlife Sanctuary. Results from the studies were used to better inform management planning decisions and improve law enforcement

strategies in collaboration with local and national government departments and other relevant authorities.

A **flagship species** is a species of plant or animal that is either of elevated conservation concern itself (typically one at risk of extinction nationally or globally) or that forms a good indicator species for the status of others that are of elevated concern. The flagship species in this case are selected based on their status as "Endangered" or "Critically Endangered" (according to the IUCN Red List of Threatened Species); their presence in, and extensive coverage of, the landscapes; their iconic flagship status; and the availability of existing baseline data on their populations. A **stable population** means that there is no statistically significant decline in the density of the species across the sampling area within the landscape.

Key Outcomes

Wild cattle populations stable. Cambodia's Eastern Plains landscape offers refuge to one of the world's most endangered wild cattle species, the banteng (*Bos javanicus*). A significant threat to banteng is the indiscriminate use of snares. USAID SFB has worked to enhance efforts of law enforcement teams and wildlife rangers to reduce the number of snares present in the forest to help continue to improve banteng management in the EPL. Monitoring population trends like those of the banteng is crucial to assess the success of conservation management strategies for both individual protected areas and landscape-wide management approaches. Over the course of the project, USAID SFB supported monitoring of the banteng population in the Eastern Plains and recorded a total of 2,976 individuals, clearly indicating that the population is stable and likely increasing over the established baseline estimate of 1,172 individuals. These results show the USAID SFB project has achieved its biodiversity target to keep populations of this endangered flagship species stable. Banteng are considered a priority species for conservation and will continue to be monitored by USAID SFB partner WWF as part of a regionally significant population.



A herd of banteng grazing in the Srepok Wildlife Sanctuary.

Endangered vulture population monitoring.

Monitoring vulture trends is part of the Cambodia Vulture Action Plan, 2016–2025. In Southeast Asia, the three native vulture species occur in only two locations, one of which is northern and eastern Cambodia, including border areas of Laos and Vietnam. Although it represents only a small percentage of the global population, this population is considered globally significant and vital if the species are to persist in Southeast Asia in the long term. USAID SFB supported monitoring of endangered vulture species, including the white-rumped vulture (*Gyps bengalensis*) and red-headed vulture (*Sarcogyps calvus*), which occur in the northern area of the Prey Lang landscape. Monitoring data for both species were annually based on complete data sets collected in the previous year. In the Prey Lang landscape, 82 adult vultures were reported at the end of 2017, up from the 54 adults reported in 2016 and over 95 percent higher than the baseline level of 42 adults. Vulture restaurants supported by the project provide safe access for birds to feed on animal carcasses without risk of poisoning from chemicals such as diclofenac, which affect parts of their range. Tourists and birdwatchers pay to view the spectacle, helping contribute revenue to cover costs.

Giant ibis population stable. The spectacular but reclusive giant ibis (*Thaumatibis gigantea*), Cambodia's national bird, is the subject of a national action plan from 2015 to 2025. With a global population estimated at fewer than 200 mature individuals, the importance of support for ongoing monitoring is clear. The population of this sensitive species is almost entirely restricted to the dry forests of northern and eastern Cambodia, an

area with seasonal habitats that are highly susceptible to the effects of climate change. Collaborative efforts have monitored vulture and ibis populations across the country for over a decade as part of the joint commitment of the Royal Government of Cambodia and multiple international NGOs. Stakeholders are continuing to provide funding and develop sustainable financing mechanisms (such as REDD+, ecotourism and the wildlife-friendly Ibis Rice) to support long-term monitoring and other conservation activities to protect these invaluable populations. USAID SFB supported regular giant ibis nest monitoring efforts, which confirmed a stable population, recording 18 giant ibis nests during the final year of the project, a 20 percent increase over the baseline of 15 nests. Spatially, giant ibis survey efforts concentrated on known breeding grounds with temporal survey effort being standardized year on year to provide meaningful trend data on numbers of nesting pairs over time. The proportion of undiscovered nests is unknown, so these data cannot be extrapolated to produce meaningful population estimates. Nesting numbers instead provide trend line data. This critically endangered bird species relies on tall nesting trees growing within relatively undisturbed deciduous dipterocarp forests. Thus, as a combined metric, giant ibis nests not only carry intrinsic value as an integral part of the ecosystem and as an evolutionary distinct endangered species, but also provide a useful indication of the overall quality of DDF habitat. Nesting success, measured as the number of chicks fledging per nest, also provides an indication of food availability and predation levels (both natural and anthropogenic).

Monitoring species at waterholes. Camera traps deployed in the EPL between resulted in 5,313 trap nights and captured a total of 144,000 photographs of 28 species including seven large ungulates, eight carnivores, nine birds, two primates, one lagomorph and one rodent. Only one out of the 54 waterholes maintained water due to the extended dry season. The result of this study will be used as an initial baseline data for long term waterhole management, conservation and protected areas management, and to help enhance law enforcement by understanding the impacts of disturbance and patrolling on waterhole use.



Asian elephants (*Elephas Maximus*) and Indochinese Silvered Langurs (*Trachypithecus germaini*) rely heavily on seasonal water holes.

The project supported additional assessments including a biodiversity study of the Prey Lang landscape in 2015, a peer-reviewed publication on conservation of cave bats in Cambodia. USAID SFB was recognized as supporting a portion of the work required to produce this publication.³



A Cambodian cave bat.



The Prey Lang Forest Landscape biodiversity assessment.

Lessons

USAID SFB recommends that monitoring and distribution data on key indicator species be incorporated into current and future law enforcement strategies to ensure that they safeguard biodiversity hotspots. Furthermore, such data should inform how protected areas are designated and managed, both on the ground and at a policy level, for example, through the development of Cambodia's Environmental Code. A concerted, multifaceted approach is vital to the long-term conservation success of the flagship species in this report as well as other globally threatened species.

³ Furey, Neil M., Tony Whitten, Julien Cappelle and Paul A. Racey. 2016. "The conservation status of Cambodian cave bats." In *International Speleological Project to Cambodia: 2016 (Provinces of Steung Treng, Kampong Speu, Banteay Meanchey and Battambang)*, edited by Michael Laumanns, 82-95. Berlin: Speleo Club Berlin.

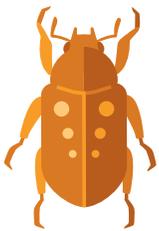
Table 3: Details of indicator species, reasons for selection, and data collection methods and dates.²

Indicator Species	IUCN Red List Status	Landscape	Sites	Reason for selection	Method used	Output	Baseline	Year Baseline Data Collected
Banteng (<i>bos javanicus</i>)	Endangered	Eastern Plains	Phnom Prich WS, Srepok WS, Keo Seima WS	<ul style="list-style-type: none"> • Iconic flagship species • Globally important population • Widespread and wide ranging throughout several habitat types across the Eastern Plains • Under threat from poaching, habitat loss, disturbance • Existing baseline • Existing robust method for monitoring 	Line transect-based distance sampling (Buckland <i>et al.</i> 2001) Incidental records	Absolute density and abundance estimates Incidental records	2,074 individuals	Jan 2010 - Jul 2011
Giant ibis (<i>Thaumatibis gigantea</i>)	Critically endangered	Prey Lang	Chheab WS	<ul style="list-style-type: none"> • Iconic flagship species • Globally important population • Species nest in tall dipterocarp trees • Only nest in core zones away from human habitation • Sensitive to environmental change • Existing baseline • Existing method for monitoring 	Nest counts	Relative index (trend)	15 nests, 12 of which were in CWS	Jun 2012 - Nov 2012
White-rumped vulture (<i>Gyps bengalensis</i>)	Critically endangered	Prey Lang	Chheab WS	<ul style="list-style-type: none"> • Flagship species • Globally important population • Extremely wide-ranging • Sensitive to environmental change • Existing baseline • Existing method for monitoring 	Vulture 'restaurant'	Relative index (trend)		Oct 2011 - Sep 2012
Slender-billed vulture (<i>Gyps tenuirostris</i>)	Critically endangered	Prey Lang	Chheab WS	<ul style="list-style-type: none"> • Flagship species • Globally important population • Extremely wide-ranging • Sensitive to environmental change • Existing baseline • Existing method for monitoring 	Vulture 'restaurant'	Relative index (trend)	42 individuals (fledged adults; combined figure for all three vulture species)	Oct 2011 - Sep 2012
Red-headed vulture (<i>Sarcogyps calvus</i>)	Critically endangered	Prey LangC	hheab WS	<ul style="list-style-type: none"> • Flagship species • Globally important population • Extremely wide-ranging • Sensitive to environmental change • Existing baseline • Existing method for monitoring 	Vulture 'restaurant'	Relative index (trend)		Oct 2011 - Sep 2012

² Buckland, S.T., D.R. Anderson, K.P. Burnham, J.L. Laake, D.L. Borchers, and L. Thomas. 2001. *Introduction to Distance Sampling*. Oxford: Oxford University Press.



2. ENVIRONMENTAL EDUCATION AND AWARENESS



With 68 percent of the population under 30 years of age, Cambodia is experiencing robust population growth and increasing urbanization. Slowing growth in agriculture, combined with increasing contributions of the tourism, manufacturing and service industries to overall GDP, has widened both the poverty and knowledge gap between rural and urban areas. USAID SFB focused on improving access to information on biodiversity and natural resource management issues to a broad range of stakeholders, particularly urban youth to increase public awareness on the need to conserve forests and biodiversity.

Communication and outreach strategy played a very important role in promoting awareness and knowledge of forests and biodiversity conservation among all stakeholders throughout the life of the project. USAID SFB project communications has broadly built engagement among civil society organizations (CSOs), government officials, donors and the public through effective strategies and materials produced in compliance with the USAID Communications Guidelines for Marking and Branding. USAID SFB organized hundreds of events, public awareness campaigns, mini-concerts, trainings, workshops and debates, to reach target audiences, including the media, government staff, rangers, students, youth, community members, development partners and the general public. The project produced a variety of communication materials, including project snapshots, newsletters, press releases, photo captions, radio messaging, short videos, films and Facebook live chats, that reached hundreds of thousands of people.

Campaign for Protection and Subsequent Designation of the Prey Lang Wildlife Sanctuary

Support for the designation of 431,684 hectares of previously unprotected lowland forest as the Prey Lang Wildlife Sanctuary—now Cambodia’s largest protected area—is undoubtedly one of the most significant achievements of the USAID SFB project. The designation, which took place in May 2016, was the culmination of four years’ work on a range of USAID SFB activities and many more efforts from other development partners, together with the Ministry of Environment. A key factor was garnering public support for the protection of Prey Lang and a suite of awareness raising activities placed the need to protect Prey Lang at the front and center of the drive to advocate and develop legislation.

USAID SFB helped local forest communities find a voice through strengthening grassroots networks such as the Prey Lang Community Network (PLCN), the Prey Lang Forest Community Network (PLFCN), helpful government officers, and youth groups, to highlight the importance of biodiversity conservation and Cambodian natural heritage. USAID SFB provided support for hundreds of youth to visit Prey Lang, and held several high-profile events at universities where the Prey Lang landscape and the need for forest conservation were regularly discussed.

From June 2014 to August 2016, USAID SFB coordinated a multi-faceted program of education and outreach events which were strategically designed to reach a broad cross-section of audiences and stakeholder groups. Messaging was designed to improve the adaptive capacity of all stakeholders, including at all levels of government, community groups, grassroots networks and urban youth. Activities such as eco-schools, village

eco-clubs, community night shows, and radio series using interactive voice response (IVR) systems were deployed to educate audiences and deliver messages on environmental protection and conservation to the government and local communities. Topics included information on forest protection, climate change impacts and adaptation, illegal wildlife trafficking, and Cambodia’s wildlife law. An awareness, ownership and action (AOA) initiative was established to catalyze grassroots support for forests in the PLL to be designated as a protected area. The AOA team engaged more than 30 partners, including youth groups, youth organizations, universities, active citizen groups, civil society, art associations, indigenous communities and monks. Prey Lang branded materials were produced to promote the landscape in a new and positive way. The initiative organized field visits to Prey Lang, workshops on various conservation related themes, a debate forum, a tree blessing ceremony, art shows, social media outreach, advertising spots highlighting Prey Lang biodiversity in cinemas, as well as consultation and advocacy at the national level.

By the Numbers

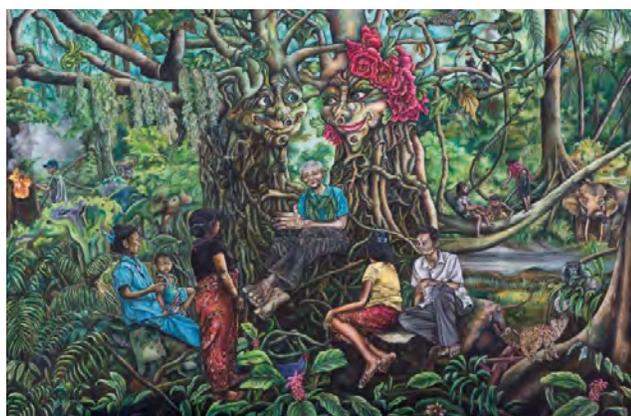
1,251 (645F)	Number of students trained
97 (17F)	Number of teachers trained
~420,000	Number of people reached by radio messaging
300	Number of eco-club members received text message alerts from the IVR system
500	Number of people call in the IVR system seeking information on forest topics
~5,000	Number of people participating in awareness activities for Prey Lang protection status
20,000	Number of moviegoers to view Prey Lang images and animal sound clips
80,000	Number of people reached out to other materials promoted online



A musician plays the chapey dang veng to accompany songs about the role of the forest in Cambodian culture and nature.

Animistic, spiritual and cultural beliefs are extremely strong and widely prevalent across much of Cambodia. Religious representations often occur in the form of an animal, frequently one that is endangered or threatened. USAID SFB sought to harness the “soft” but significant power of these cultural concerns to reach a broader, less traditional audience, particularly youth, across both target landscapes and in urban centers across the country. With this in mind, the Grandpa Prey Lang character was developed; paintings, books, short films,

and animal sound clips were produced; and original songs about Prey Lang were composed and sung by a chapey dang veng (Khmer traditional long neck guitar) vocalist. These activities and products, along with a music video, short films, and a video documentary about key awareness events, all contributed to changing people’s perception about this landscape. USAID SFB also produced 25-second sound-slides that ran at three local movie theaters for several months, where cinema goers, particularly urban youth, could see and hear the sounds of Prey Lang and be reminded how important the forest was to their wellbeing.



The Grandpa Prey Lang character expressed through art.

USAID SFB was instrumental in advocating for protected area status for Prey Lang in the political and social spheres of influence through a period of intense public institutional reform. We are pleased with the result. Further details on examples of public outreach initiatives are detailed below.

The Chapey Theater production in collaboration with ministries and NGO partners: The Chapey Theater production was an effective art performance that communicated forest protection messages and the importance of Cambodian natural heritage to more than 700 audience members on April 3, 2017 at Chaktomuk Theater. The event was organized in collaboration with a number of NGO partners, including Cambodian Living Arts, Fauna and Flora International, Conservation International, Wildlife Alliance, and Reeksai volunteers, and with the involvement of the Minister of Culture and Fine Arts, Her Excellency Phoeung Sakana, and the USAID Mission Director Ms. Rebecca Black. The event

was part of an awareness-raising campaign that focused on key forest messages including the importance of forest protection and biodiversity conservation.



Performers at the Chapey Theater production.



Musicians perform at the Chapey Theater production.



Enthusiastic students attend the Chapey Theater production.

National radio series and public service announcements (PSAs): The national radio series and public service announcement reached 422,313 individuals across the provinces and city of Kampong Thom, Preah Vihear and Phnom Penh. Six unique episodes, “Success Starts with You,” were broadcast bi-weekly, providing listeners with a better understanding of the importance of ecotourism, how to conserve and develop forest communities in a sustainable manner, rights and responsibilities of CF communities, the importance of women’s participation to reduce illegal logging and poaching, the role of the FA and local government in stopping illegal logging, and how Prey Lang communities can improve their livelihoods.

Interactive voice response system and voice messages: Six unique audio topics were uploaded and 80 calls were placed to the IVR system by 29 unique numbers. The average length per each call was 1.97 minutes. Three voice message alerts were sent to 343 unique numbers of target beneficiaries and successfully received by 170 (49 percent) of the unique number. The topics covered were the same as mentioned in the PSA.

Village fairs and mobile broadcasts: Village fairs were successfully conducted with community forest members across the Prey Lang landscape. Participants gained a better understanding of biodiversity and forest protection, the importance of forest and biodiversity, the causes and effects of the climate change, and ways to prevent the impacts of climate change. A total of 197 mobile broadcasts on forest and land management related topics were conducted via loudspeakers, targeting members of community forests across the Prey Lang landscape.

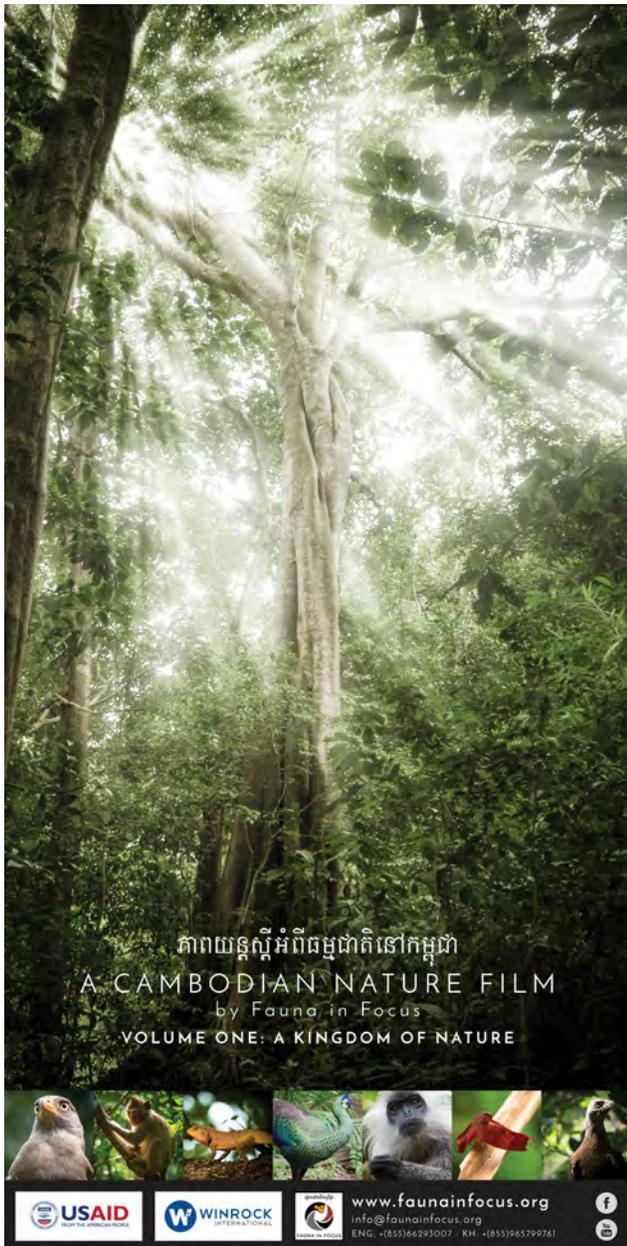


Eco-Schools

In partnership with the Ministry of Environment and Ministry of Education, Youth, and Sports (MoEYS), USAID SFB launched and implemented the Eco-School Program in the Eastern Plains and Prey Lang landscapes to empower teachers and students to raise awareness on the need for environmental protection. The project founded the first eco-school clubs in the EPL and supported the MoEYS in publishing the national eco-school guidelines. These interventions provided the framework for MoEYS to replicate this activity in the rest of the country and help raise wider awareness on the importance of environmental preservation.

Eco-schools are recognized by ASEAN as a primary or secondary school “that values the implementation of environmental sustainability, follows environmental principles, environmental curriculum and other implementation for the benefits of school itself and surrounding communities.”





USAID SFB supported “A Cambodian Nature Film,” a short documentary by Fauna in Focus.

By the Numbers

- 15** Number of short films/documentaries
- 120** Number of Project Snapshots
- 107** Number of Project Photo Captions
- 1,200** Number of key stakeholders on SFB mailing list
- ~10,000** Number of likes on SFB Facebook
- ~100,000** Number of views on social media (Facebook page, YouTube and videos)
- 100** Number of news items/reports broadcasted on National TV channels
- 7** Number of newsletters
- 10** Number of press releases





3. LAND TENURE AND CONSTRUCTIVE DIALOGUE



Community forests and community protected areas are exceptionally important to the poor, who commonly capture benefits from forest resources, including NTFPs. Tenure over these areas provides access to land and forests in the face of widespread illegal logging and land-grabbing, over which local people would otherwise have little control. Community land titles advanced by USAID SFB are helping to reduce illegal and destructive activities, enable regeneration of degraded areas for the benefit of biodiversity, and increase supplies of NTFPs for use by local communities.

Community-based forest management is practiced in many countries around the world. In Cambodia, community forestry was initiated in the 1990s and has grown into an area of significant focus under the Royal Government of Cambodia's National Forest Program, which promotes decentralized forest management and contributes to the overall management of the permanent forest estate. To date, the Forestry Administration has dedicated significant effort and resources to establish almost 500 community forestry sites in accordance with the national guidelines on community forestry. Similarly, the Ministry of Environment has established many community protected areas as a part of the broader zoning of the country's protected areas network.

Key Outcomes

Community forests, community protected areas and indigenous community land titles. USAID SFB worked with 72 community forests, 10 community protected areas and supported 13 indigenous community land titles (ICTs), strengthening tenure and secure community access to local natural resources. With

support from both the Forestry Administration and Ministry of Environment at the local and central levels, the project helped engage local communities in forest management. Effective local management of community forests and community protected areas requires a wide range of technical activities to be completed before any significant on-the-ground forest management interventions can take place. To ensure long-term tenure, critical steps—including area identification, registration, legalization and demarcation—need to be taken, as well as forest inventories and development of a draft community forest management plan. To complement this technical assistance, SFB provided significant support to help communities navigate the complex legal registration process with local government authorities and subsequently at the national level. Community forestry sites supported by the project went on to attain step seven or beyond in the registration process, ensuring that the Forestry Administration signed a community forestry agreement with the local community that recognizes their rights to a 15-year renewable lease period on their local forest area.



A community forest member collects local NTFPs.

Technical support to community forests on forest protection. To maintain, protect and enhance local forest resources, the USAID SFB provided technical support to community forest sites located around and within the newly designated Prey Lang Wildlife Sanctuary. Technical support included coaching on global positioning system (GPS) use, patrol planning, spatial monitoring and reporting tool (SMART) use, and collaboration with local authorities and Forestry Administration officers. Training participants included commune councilors, village chiefs, community forestry management committee (CFMC) representatives and CF patrol groups. This technical support helped strengthen and improve protection and conservation of natural resources within local forest areas in accordance with CF agreements.

Constructive dialogue secures land tenure and reduces emissions. Over the course of the project, USAID SFB provided support to long term efforts to establish payments for reducing emissions from avoided deforestation and degradation. The first sale of carbon credits from the Keo Seima REDD+ project was completed on July 23, 2016, marking the first time that Cambodian carbon credits have been sold on the international market. The Royal Government of Cambodia sold the credits to Disney, the world's second largest media conglomerate, which will use the credits to reduce their greenhouse gas emissions footprint and to help achieve their target of reducing net emissions by 50 percent by 2020. The company is committed to invest in forests around the world because of the benefits they provide, from carbon sequestration to critical habitats



Community members install demarcation signboards along the perimeter of their community protected area.

for wildlife. The credits were sold through the voluntary carbon market, which enables companies, organizations and individuals to pay for a range of actions that reduce carbon emissions. Through the Keo Seima REDD+ project, USAID SFB achieved a reduction of 83.8 percent over baseline in the local deforestation rate. In Keo Seima, the number and quality of the credits is being verified against two leading audit systems: the Verified Carbon Standard and the Climate, and Community and Biodiversity Standards. The Keo Seima REDD+ Project is projected to prevent emission of more than 14 million metric tons of CO₂ equivalent over its first 10-year period (2010–2019).

As a result of USAID SFB's combined climate change mitigation activities, including the REDD+ scheme and other emissions reductions from community forestry, Cambodia avoided greenhouse gas emissions equivalent to 11,981,504 tons of carbon dioxide, or 2,565,633 passenger vehicles driven for one year. USAID SFB calculated the savings using the agriculture, forests and other land use (AFOLU) carbon calculator, a tool developed by Winrock and USAID.

Coming Together for Forests. The CTF initiative brought together community and local government leaders, representing 80 different forest communities from 21 provinces, to engage in sustained learning, exchange, and dialogue about critical issues with Cambodia's forests and natural resources at the community level. Over the course of two years, the initiative facilitated nine learning network meetings and 99 information exchange conference calls, during which

participants with different backgrounds and experiences were able to establish and develop relationships of mutual trust and understanding, leading to constructive dialogues with multiple stakeholders around identified forest management cases. Informal observation and feedback as well as structured surveys demonstrated that through project activities, CTF participants increased their trust, confidence, and ability to collaborate and connect with different stakeholders to address forest-related issues in their respective communities.

Interactive voice response conference. Eleven IVR conference calls were organized through the CTF initiative, which included local champions from forest communities, networks, and sub-national government administrations from 21 provinces across Cambodia. The participants exchanged experiences regarding linkages and strengthening identity among forest communities across Cambodia. A key takeaway from the calls was that while CTF group members are aware of government transitions in forest governance, they do not feel that they have sufficient detailed information to express an opinion about whether the changes are good or bad, or have a sense of what impact the transitions will have at the community level.

Youth exchange visits. USAID SFB supported numerous exchange visits for youth who had participated in the Prey Lang Debate Forum, to learn about community-based ecotourism in Thalaborivath District, Stung Treng Province, which borders Prey Lang. During exchange visits, youth learnt about the establishment of community forestry areas, benefit sharing of ecotourism revenues, potential impacts of upstream hydropower dams, bamboo handicraft production activities, bamboo charcoal enterprise, species habitat, Mekong dolphins and other forest-related issues. The exchange trips offered the young participants firsthand experience to discover the importance of forests for the livelihoods of people living in this area.

Open Development Cambodia (ODC) platform updated. Open Development Cambodia is an open data website and serves as a publicly accessible platform to access data which is in the public domain. The web-based portal hosts invaluable population data, socio-economic data, forest cover data, information on economic land concessions, hydrology, and a wealth

By the Numbers

- 41 Land titles advanced
- 13 Indigenous community land titles
- 18 Community forests
- 10 Community protected areas
- 56 Number of conservation / NRM conflicts mitigated or acted upon

of other data. As well as hosting a rich supply of information, the platform allows users to map any area of interest within Cambodia and apply data filters of their choice. The ODC platform is an important resource for civil society groups, government personnel, students and professionals from a wide range of backgrounds to access up-to-date, verified information from a single source. USAID SFB supported the design of a new and improved website and migrated content from the old website to the new platform, which includes published communal land titling and national protected areas datasets. The platform continues to attract new users.

Dataset of communal land titling. The project published new online resources detailing Cambodia's indigenous communities and their land in both Khmer and English language. A map layer of registered collective land was also integrated as part of ODC's interactive map, while the profile page shows the accurate locations and size of the registered communal lands as well as groups of indigenous people. The project also highlights indigenous communities that were officially granted communal land titles from Ministry of Land Management, Urban Planning and Construction (MLMUPC). This new dataset illuminates the present status of indigenous communities and their range of land rights.

Datasets of the natural protected areas (NPA) network. USAID SFB published datasets of 53 national protected areas, including a map layer on the ODC map explorer and profile page, together with metadata for

NPA spatial dataset and their referencing documents on CKAN data hub in both Khmer and English. The dataset provides useful and up-to-date information to civil society organizations and communities working to monitor the sustainability of the natural resource management. By overlaying the NPA layer with the concession layers in economic land concessions and mining licenses datasets, users are able to better analyze current socio-economic developments.

Conflict mitigation. USAID SFB mitigated 56 conflicts across the Prey Lang and Eastern Plains landscapes, including successfully dealing with land clearances, conservation material destruction in protected areas, as well as resolving disputes arising from community patrolling. As part of the conflict mitigation, USAID SFB supported the Provincial Department of Environment (PDoE) and the police in fining and/or arresting perpetrators, confiscating stolen items including bulldozers, chainsaws, and logs, and reporting and following up on the cases with the local courts.

Listening and dialogue group (LDG) meetings. LDG meetings were conducted with CF members community forests across the Prey Lang Landscape, where the community members discussed and gained a better understanding of forest-related issues and forest management, which were broadcast on radio program series and PSAs.

Community forest leader (CFL) meetings. CFLs conducted four educational meetings with community forest members across the Prey Lang Landscape to inform people about community forest bordering, the importance of ecotourism, and sustainable resin collection.

The implementation of agreement forms to mitigate illegal activities: USAID SFB introduced agreement forms for community patrol groups to use in parallel with their forest patrolling activities. By signing these forms, illegal loggers, poachers and land encroachers confirm their commitment to discontinue such illegal activities in the future. After the agreements are signed by illegal loggers and land encroachers, they are verified by village chiefs and commune councils.

Lessons

As the backlog of approvals on community forestry agreements at the national level gets cleared, a significant number of community forests and community protected areas sites are due to receive formal tenure rights. While better management of multiple NTFPs is critically important to improve incomes for communities, strategies for semi-commercialization of forest resources should be a focus for communities to realize the true potential of sustainable management of their local resources. In some areas where resources are rich with existing links to market, this has the potential not only to supplement household income in times of economic or climate stress, but to provide a primary source of employment which could become the basis of a nascent legal forestry sector across the country. With over 80 percent of households utilizing unsustainably-sourced biomass as their primary source of energy, the demand for firewood and charcoal is unlikely to be quenched for the foreseeable future. Community forests and community protected areas are well placed to supply this market. The current regulatory and policy framework allows but does not necessarily encourage or provide guidance to communities to begin managing their forest for anything beyond subsistence use. Looking to the future of community-based forest management in Cambodia, whether it be under a community forest, community protected area or indigenous communal land title mechanism, opportunities for commercialization and semi-commercialization of forest products should be explored as a priority. Scaling up sustainable fuelwood and non-luxury timber production on a semi-commercial basis under the CF framework offers the potential for significant revenue generation, a portion of which can be reinvested into ongoing improvements in forest management by local communities.

For indigenous communal land titles to be effective in securing tenure, facilitating successful land-use planning, and ensuring sustainable use of forest resources, the Indigenous Community Commission (ICC) in each village needs to be strong, organized, and competent. Future support to ICT activities should ensure ICCs have adequate capacity to communicate both within their village and externally with local government authorities, and to understand the legal aspects of their ICTs in order to counter threats.



4. LIVELIHOODS



By developing markets and improving management for a range of natural resource products, USAID SFB's livelihood interventions were instrumental in increasing incomes of forest community members. Improved harvesting methods are helping ensure long-term sustainability of the resource base, while interventions to improve local adaptive capacity enables community groups to respond to climate shocks.

Although the contribution of agriculture as an overall share of GDP has been declining in recent years, almost 80 percent of the population still live in rural areas and rely significantly on agriculture and associated natural resources. Vulnerability of forest communities is especially high due to low adaptive capacity and generally low resilience of rain-fed, largely subsistence agriculture practices and associated infrastructure. This was clearly demonstrated during the El Niño event of 2015–2016, where a period of extended drought and subsequent failed rice planting caused widespread migration and social upheaval in communities across the country. Other anthropogenic factors such as hydropower development, agricultural expansion, deforestation and watershed degradation further compound the problem, often with the result that many forest community members turn to illegal logging and hunting to generate income during periods of climate shock.

Over the life of the project, technical and financial assistance was provided to 15,168 people in 121 communities who participated in income generating activities. The project focused on NTFP value chains that were both locally appropriate and scalable across both target landscapes, as well as improved rice

cultivation, the wildlife-friendly brand “Ibis Rice,” small-scale payments for ecosystem services schemes, and ecotourism development. USAID SFB's strategy was to improve the livelihoods of forest-dependent communities while concurrently introducing practices to conserve and manage natural resources on a sustainable basis. USAID SFB also directly engaged and trained staff from other development partners, government institutions as well as local community members. As a result of project assistance, incomes were improved by 48 percent over baseline.

Five payments for ecosystem services agreements have been approved and implemented to ensure the balance between conservation and livelihoods improvement. The agreements specify that community members, who are part of livelihood enterprise groups, provide a share of their annual profits to the conservation fund. This fund is later used to support the work of the community patrolling team for gasoline, per diems and small equipment for their monthly patrols. This scheme ensures that the livelihood alternatives provided as part of the USAID SFB project are ultimately reinvested in natural resources preservation.

Incomes Increased from Improved NTFP Management

The USAID SFB project has strategically worked to ensure the sustainability of 121 community livelihood enterprises through building the capacities of small grantee NGOs to support communities on sustainable livelihood approaches, sustainable NTFP harvesting, agriculture techniques, management of enterprise groups, and creating market linkages with private sector actors in the provinces and Phnom Penh. USAID SFB invested significantly in the technical capacity of communities so they can continue to earn from a range of livelihood options beyond the project lifetime. In addition, the project has significantly contributed to environmental sustainability through continuously promoting sustainable harvesting techniques for NTFPs and training communities to use organic farming techniques rather than harmful agrochemicals for agriculture-based enterprises.

Key Outcomes

Strengthened NTFP enterprises and market linkages.

The project facilitated market linkages for resin and resin torch sales for resin groups from community forest groups across the PLL. As a result, resin groups sold over 16,000 kg of unfiltered liquid resin to traders at provincial and Phnom Penh markets. Resin groups around the PLL are now able to allocate some budget from net profits to be used for forest patrols and other community purposes. USAID SFB held community forums to improve resin quality and established a new pilot resin filtering system. The new resin filter is labor saving and has the capacity to produce a much cleaner product, filtering 60 kg of raw resin into 20 kg of clean resin within an hour. Project partner Mondulkiri Forest Ventures developed a marketing plan to promote resin products by linking with local traders outside of Mondulkiri Province.



Why Resin?

Resin is an important NTFP for many rural communities. It can be used to make traditional products including soap, varnish, and sealing wax, and is often used for caulking boats.

Resin can be extracted from dipterocarp trees, which are found in many community forests and protected areas.

Resin tapping conducted on a sustainable basis can offer an alternative income stream to collectors; however resin trees themselves are increasingly a target for illegal loggers.



Quote from:

Mr. Sean Tha,

a resin collector at Poupet village, Mondulkiri



Thanks to USAID for assisting us to form our resin committee and encouraging us to consolidate our resin volumes to sell to a one buyer," said Sean Tha, a long-time resin collector from Poupet village.

"I am very happy now. I can earn more than \$200 dollar per month from resin. That's enough to feed my family and pay for school for my three children."

Improved bamboo resource management and market development. USAID SFB helped establish linkages between livelihood enterprise groups and private companies such as Bambusa Global Ventures (BGV) and Mondulkiri Forest Ventures (MFV), ensuring that NTFP collectors have long-term access to buyers and markets willing to pay a premium for value-added goods. Commercial relationships with the private sector in key livelihood areas, such as resin traders/brokers, village market networks for Ibis Rice, and vegetable sellers in local and provincial markets, have been established as well for sustainable business investment, innovation and market access. The project also supported study tours to enhance the capacity of bamboo groups to develop bamboo handicraft products, use benefit-sharing models, and explore opportunities for market linkages.

Bamboo enterprises. USAID SFB supported bamboo enterprise groups to rehabilitate bamboo to improve the quantity and quality of the bamboo product for future harvests. By refraining from bamboo collection during the wet season and allowing shoots to mature, bamboo clumps can be rehabilitated so that community members can more easily harvest bamboo poles and expect higher yields to meet the targets set in their business plan. USAID SFB supported bamboo groups to finalize bamboo management plans through meetings with bamboo group members and to continue to conduct harvesting block verification plan as part of the bamboo management plan input.



Training on internal control systems (ICS). ICS was developed to enable communities to better record information on resource management, harvesting operations, and financial management. USAID SFB, in collaboration with the NTFP Exchange Program as the trainer, conducted ICS training for honey, resin and bamboo enterprise committees and CF/CPA committees to improve their capacity for management and monitoring and to ensure accountability and transparency among the community members and other stakeholders.

Mondulkiri Forest Venture. MKV is a community cooperative promoting NTFPs collected by the Bunong indigenous minority group in Mondulkiri province. With support from USAID SFB, MFV had the opportunity to join a conference in Siem Reap on Khmer product promotion and to communicate with the Ministry of Commerce to build relationships with government representatives and private companies at the national level. MFV registered as a small and medium enterprise within the Small Medium Enterprise Cambodia Federation, giving it the opportunity to learn and exchange experiences on product development and marketing. USAID SFB also supported MFV in the purchase of shop materials (small furniture and equipment) to improve the honey shop's professional appearance.

Conservation-based agriculture. The Ibis Rice model developed by USAID SFB partner Wildlife Conservation Society aims to achieve financial sustainability for farmers through the production and marketing of value-added rice products such as organic rice and organic rice snacks. The profits are re-invested into expanding the scheme into new communities, as well as supporting biodiversity monitoring, monitoring of legal compliance in protected areas, and community development. Within Chhaep Wildlife Sanctuary in the Prey Lang landscape, future remote sensing activities for land-use planning and compliance checking will fall under sustainable payments made through the development of the Ibis Rice scheme. The USAID SFB project built strong relationships with local communities, government agencies and local NGO partners that to create a level of trust and implement incentive schemes. The project worked with local NGO partners, law enforcement and government agencies to reduce threats to highly

threatened species within the project area by expanding ecotourism and Ibis Rice schemes. Activities were fully integrated into an existing program of work, rather than acting as a stand-alone intervention, and as such received broad support from communities and government alike.

Ecotourism

USAID SFB engaged public and private support for the development and management of the Reasmey Phoum Pir Kiri Boeng Kranhak ecotourism enterprise in Sandan District, Kampong Thom Province, which borders the Prey Lang Wildlife Sanctuary. The project coached members of their ecotourism committee to strengthen capacity on bookkeeping to ensure that they properly recorded loans, interest rates, benefit sharing and cash management. Additionally, 283 tree species labels were installed, to educate tourists interested in the local ecology. The Kampong Thom Provincial Administration and Department of Tourism will continue to assist the ecotourism community. In addition, the Sam Veasna Center (SVC) and CamConscious tour operators have shown strong interest in the enterprise and assisted with promoting birding tours, and this collaboration will continue after the USAID SFB project ends. The project also worked with SVC at ecotourism sites in Andong Kraloeng and Dongphlet to empower the communities to operate and manage tourism enterprises themselves and SVC will continue to channel visitors to the sites.

To complement and further promote ecotourism at this site, USAID SFB developed and produced two field guides for visitors in both English and Khmer language,



Children sail on a raft made from recycled materials at Boeung Kranhak ecotourism site

By the Numbers

47.7% increase in income levels of target communities from improved livelihoods

15,168 Number of people participating in income generating activities

138,636 Number of people with increased economic benefits derived from sustainable NRM

entitled Birds of Sandan and Useful Plants of Sandan, further highlighting the unique natural heritage of the area.

Lessons

The implementation of NTFP-based livelihood enterprises was significantly affected by illegal logging and forest land clearance. Some community members were lured by easy and substantial income from cutting and selling timber as opposed to farming or collecting other NTFP products. While luxury timbers are no longer abundant, resin trees have become a target for illegal logging and that will negatively affect resin business in the near future. This challenge should be addressed through a concerted effort by development and conservation NGOs to obligate the government, especially at the national level, to take serious action on the illegal activities occurring in both landscapes.

Furthermore, in Cambodia, there is no policy support for communities to run NTFP businesses at a commercial scale. The existing Forestry Law, in effect since 2002, presents barriers to these community-run businesses. As a result, communities are discouraged to protect their NTFPs resources like resin trees, and, in some cases, sell these trees at low prices. To run a commercial NTFP business, communities need to fulfill all requirements in order to get a business license, just as a private company does. This has created an opportunity for monopoly control over NTFP businesses, especially the resin business. A policy should be developed to support community businesses by reducing the permitting paperwork, fees, and associated taxes.

Landsat remote sensing for Ibis Rice monitoring. The Ibis Rice project in Chheab Wildlife Sanctuary (CWS) benefitted significantly from Landsat remote sensing as a method of measuring and improving compliance of participating farmers. This type of detailed and transparent compliance is invaluable to conservation incentive projects that focus on monitoring deforestation rates and events within a protected area. However, not enough time or budget was allocated for this kind of higher resolution imagery to monitor illegal land clearance within protected areas. Future projects would ideally allow for and ensure that high spectral remote sensing tools are utilized.

Private sector engagement. Partnerships with private companies provide a good opportunity for learning by both sides. Communities learn how to operate as a business and the private company learns the intricacies of doing business with communities and adapting along the way. This kind of partnership also offers a way to educate the private sector about how to mitigate the potential environmental risks and biodiversity impacts of their businesses.

Linking livelihoods development to conservation. There is a significant need to 1) expand livelihood options of communities to improve farm yields and therefore reduce the need to encroach on the forest; 2) diversify farming systems to build resilience into local livelihoods; and 3) support institutional structures that can balance short-term income generation at a household level with longer term natural resource conservation at the village, commune, and landscape level. Given that target villages have broadly similar resource bases, earning patterns, livelihoods and constraints, income generation interventions should be linked to commonly-agreed conservation objectives. Significant investment in self-help groups, group formation, product identification and technical capacity is vital. Production, harvesting and business plans should be developed in the context of “green supply” chains, with a focus on environmental sustainability and promoting incomes from conservation of resources.

Capacity limitations of enterprise groups. The limited capacity of enterprise group management committees, in terms of literacy and capacity to manage group members, slowed down project activities. However,

additional training and continuous coaching from the project helped to increase their capacity. It proved to be challenging for community micro-entrepreneurs—whether ICS distributors, retailers or bamboo charcoal producers—to thoroughly record their production and distribution data, as they have not been accustomed to tracking performance and keeping up-to-date production and sales logbooks. In order to enforce proper monitoring, it is essential not only to develop and transfer appropriate tools to community members, but also to have them understand the rationale behind the system, for example optimizing production processes, managing stocks, and monitoring sales.

Quote from:

Mr. Long Ouek,

a member of Andong Kraloeng eco-tourism

“

With more tourists arriving, we're making a much better living than before. We're learning how to market our forest walks and improve tourist services, too. Last month I led five tours to see wild animals and large trees. We can often observe different varieties of monkeys, as well as, musk deer and wild boars in the wild.”

Quote from:

Ms. Van Sen,

bamboo processing enterprise group leader, Koh Ent Chey CF, Kratie

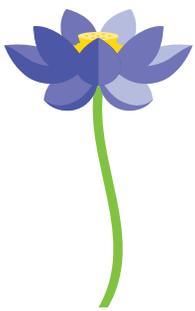
“

Before this enterprise was formed, most of the women in the community weren't aware that a business enterprise was an option for them. After USAID SFB helped us to form the enterprise group, we noticed improvements in the self-esteem, confidence, and decision making abilities of our community women. We all feel more productive now and we share the income from selling the incense sticks to support our families.”

“The bamboo enterprise provides clean and safe jobs, primarily to the community women. We work together, have our small children playing nearby, and engage in discussions. Through our hard work, we made \$4,250 from selling 10 tonnes of incense sticks in the past year.”



5. GENDER



Women and men experience climate change impacts and natural disasters differently. Women in Cambodia are disproportionately vulnerable to the effects of climate change, as they are more likely to lack a formal education, to have limited access to information, to be less involved in decision-making, to be traditionally bound to the household whereas men are more likely to migrate to seek employment, and to prioritize others' needs over their own. Combined with general reliance on rain-fed agriculture and local natural resource use, women are highly vulnerable to projected shifts in climatic conditions.

Although the main focus of USAID SFB's activities is on forests and biodiversity sectors, especially climate change adaptation, gender mainstreaming was integrated into all activities of the project. Opportunities were provided for both men and women to participate in, obtain, and share practical experiences in the activities supported by the project, as well as planning and implementing community forestry development activities, where the project worked closely with local and competent authorities. As the project collected and compiled information, data was disaggregated by gender to ensure that the project team was aware of the importance of establishing and maintaining appropriate gender participation in each of the project's activities.

Main Activities

The USAID SFB project promoted gender equality and women's empowerment by ensuring that under-represented groups, specifically indigenous people, women, and youth, were incorporated into all stages of each activity. The project set a goal of at least 30 percent of participants from under-represented groups in project activities to promote gender equality in all aspects of the USAID SFB project, overcome existing barriers to improving women's participation, and mainstream a gendered perspective into all stages of the project. For this purpose, a gender strategy, action plan, checklists, brochure and gender support materials were developed based on the specific needs of each target audience.

Gender inclusiveness. Staff, key partners and small grantees of USAID SFB improved their knowledge and analysis skills on gender inclusiveness in forestry, biodiversity, climate change, and training of trainers

through a number of gender capacity-building trainings provided. Consultations, mentoring, field demonstration, and team reflections were regularly conducted by the USAID SFB Gender Specialist to ensure gender was effectively mainstreamed into implemented activities.

Gender awareness. Gender awareness in forestry and climate change mitigation was incorporated into different field activities, such as livelihood trainings, CF forums and workshops, and constructive dialogues. This helped under-represented groups to gain more voice and confidence, and be actively involved in forest management and protection. In total, twenty project snapshots were published that captured gendered aspects of project activities and the advancement of under-represented groups through their own stories of how USAID SFB helped to improve cultural understanding and increase their active involvement and leadership in forest management.

Gender considerations were incorporated into socio-economic baseline surveys, livelihood assessments, value chain analyses and other surveys and studies that are supported under the USAID SFB project. At the project management level, USAID SFB recruited more than 45 percent female staff, of whom 40 percent worked in technical positions.

Through gender mainstreaming activities, out of the 37,699 persons engaged in USAID SFB activities, there were 17,361 women, over 46 percent of the total people engaged, and 13,748 indigenous people, or 36 percent of the total.

Women were empowered through capacity-building activities, such as training and awareness raising events, to master skills and enable them to participate in decision making activities related to community forest development. Among the 13,125 people actively engaged in the forest management activities in EPL, PLL and national level, 5,570 or 42.4 percent were women. USAID SFB also engaged women and indigenous people in trainings on community climate change adaptation and using the WESTool to identify climate change adaptation priorities. Of all participants trained in climate change adaptation, 42.7 percent were women and 25.3 percent were non-Khmer.

The Coming Together for Forests initiative engaged community and local government leaders in sustained learning, exchange, and dialogue about critical issues that are facing Cambodia's forests and natural resources at the community level. The program proactively promoted, encouraged, and supported women to participate in the initiative as community representatives and local government champions, to highlight the diverse set of issues that are experienced differently by men and women.

The lower participation of under-represented groups in these activities was largely due to lesser female participation in patrolling as well as fewer women and indigenous people holding government roles that require technical training. The highest level of participation by under-represented groups was achieved in the livelihood component of the project, where more women participated in NTFP business management (harvesting, processing, packaging and selling) and agriculture skills (chicken raising, vegetable, bamboo processing, rice planting, and mushroom collecting), as they were able to overcome social hierarchies and gender norms. Throughout the life of the project, 51 percent (7,744) women and 32 percent (4,885) indigenous people among a total of 15,168 people participated in income generating activities.

Besides USAID SFB's significant efforts to promote gender equality in all stages of each of the project's activities, the promotion of gender equality and women empowerment also comply with Cambodia's Climate Change Strategic Plan (CCCSP),⁴ in particular the gender mainstreaming guiding principles of the CCCSP where it ensures equity, equal participation and benefits of women who are more vulnerable to climate change impacts because they are ethnic minorities and live in rural areas, relying on farming and subsistence livelihoods.

⁴ Royal Government of Cambodia. 2013. *Climate Change Strategic Plan for Gender and Climate Change (2013-2023)*. Phnom Penh: Royal Government of Cambodia.

Lessons

Project interventions were focused primarily at the community level, and family obligations and social norms made it more difficult for women to participate in activities outside of those communities, particularly for extended periods of time. As a general rule, the high illiteracy rate of women can reduce participation and involvement in decision making and across all other activities of the project.

Despite significant efforts, achieving gender balance can remain a challenge, especially in the proportion of women involved in community patrolling activities, where it remains low. Women are not proactively excluded from forest patrolling activities, but social and societal norms tend to engender higher levels of male participation in these activities, particularly if patrols involve overnight stays in the forest. . Traditional gender stereotypes are expressed in the belief that “forest patrolling is a man’s job” and there is often reluctance from men for women to be involved.

The number of women participating in project activities did not proportionally increase over time, as most activities are done with the existing community management committees, which are comprised mainly of men. Although there are many women emerging as elected as leaders of community forests, chiefs of village groups, and commune council members, the voice of women still remains low in making decisions and they experience lack of confidence in their management roles.

There were several instances where women proved more effective than their male counterparts in conflict mitigation circumstances and situations requiring complex negotiation. Although Cambodian society is often noted as being patriarchal, especially in the workplace, women wield significant “soft power” in the household, where they control the family budget and make the key decisions on finances.

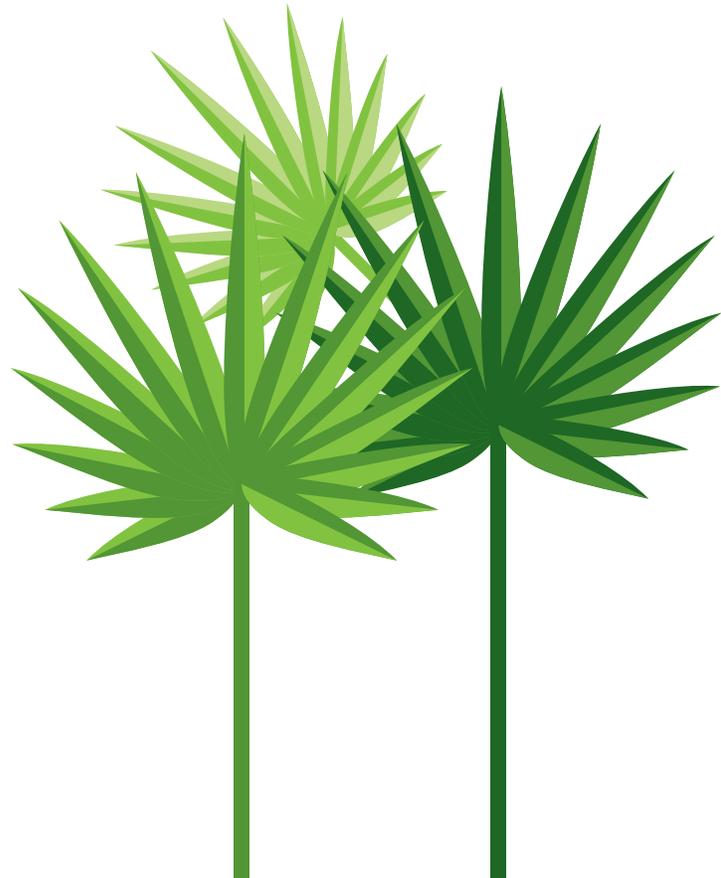
Quote from:

Ms. Khuon Doeurn,

Chief of Kampong Damrei Community Forest, Kratie province

“

Women are highly motivated to care for the forests. If we fail to manage the forest properly, in the short term, we'll have no food or forest products. If we fail to manage long enough, the next generation will lose even more,” Mrs. Doeurn explains. While male candidates still vie for her position, Khuon Doeurn is confident in her role as chief: “People believe in me, so they keep voting for me.”





6. COLLABORATIVE LANDSCAPE MANAGEMENT



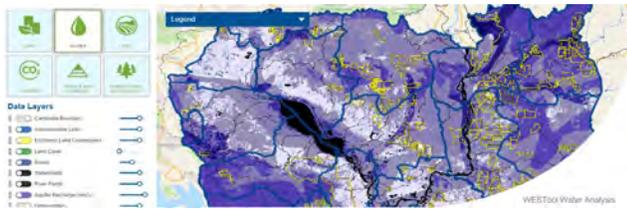
With a burgeoning network of almost fifty protected areas and limited human and financial resources, the Cambodian government faces many challenges in protecting forests and biodiversity to achieve conservation goals, while at the same time accommodating economic growth. USAID SFB worked closely with the Ministry of Environment to develop, test and validate a number of co-management approaches which leverage additional human resources to enhance protection efforts across target landscapes.

A number of grassroots environmental organizations are emerging across Cambodia, many of which are viewed favorably by the general public through the use of social media. There is a willingness at the community level to be more active in environmental management and protection, assuming that there is adequate political support and authorization from the relevant authorities. This, combined with policy reforms such as Circular No. 5 and sub-decree 156, which devolve much of the management responsibilities on the use of natural resources, creates a space in which community groups such as community forest members and grassroots networks can be co-opted into providing much-needed manpower towards forest protection efforts. USAID SFB activities facilitated cooperation between government ranges and community members to work together on co-patrolling of the Prey Lang Wildlife Sanctuary, helping streamline the organization, planning and formal reporting of activities. The project also provided training and field equipment to further support collaborative management activities. USAID SFB also designed and developed new technologies such as the Watershed Ecosystem Services Tool to improve

access to information and inform decision making on the use of natural resources.

Key Outcomes

The Watershed Environmental Services Tool. Designed to help decision makers in Cambodia better understand the environmental impacts of land use policies and actions, the WESTool integrates cutting-edge analyses with a user-friendly online platform to give decision makers key information needed to balance conservation needs with development goals. By integrating complex spatial datasets and hydrological modeling into interactive maps and analyses, the WESTool allows users from all backgrounds to explore and understand the potential environmental impacts of land use policies and actions. This unique tool provides objective, science-based information to inform assessments of both past and future land management, as well as actions to address and adapt to climate change. The WESTool is publicly available and may be accessed at <https://www.winrock.org/westool/>



The WESTool adopted at local and national levels.

USAID SFB assisted local government authorities and community members to identify climate change adaptation priorities in two communes of natural resource significance. Both Anlong Chrey commune in Stung Treng and Sok San commune in Monduliri have high forest cover and border a protected area. Training events on using the WESTool to conduct analysis of various development scenarios enabled local officials to identify climate change adaptation priorities such as reduction of riverbank erosion, prevention of forest fires, investment in water storage and irrigation infrastructure, as well as continued support for forest protection. Mainstreaming of these efforts into five-year commune development plans and subsequent inclusion of priorities into government budgets will ensure that human and financial resources are dedicated to support activities that address climate change priorities on an ongoing basis.

To ensure the WESTool continues to be used by key stakeholders beyond the life of project, USAID SFB developed a training of trainers program which involved geographic information system (GIS) specialists from the Ministry of Environment and Open Development Cambodia. MoE and ODC staff acted as co-trainers to assist in training participants with interactive exercises on using the online platform and analyzing the WESTool results. In addition, the trainers led sessions on how to upload shapefiles to the platform and download results of the WESTool analyses. This reinforced their learning from the original WESTool training of trainers, and provided valuable experience on teaching others to use the platform.

Application of new technology enables climate-smart planning.

USAID SFB trained sub-national authorities on how to use the WESTool to support the mainstreaming of climate change and natural resource management priorities into two commune development plans in Stung Treng and Monduliri provinces.

Participants included sub-national administrators from provincial, district, and commune levels as well as community members from community forests and/or community protected areas. Training participants learned to use the WESTool to estimate how historical land use change has affected ecosystem services, how predicted climate changes may impact future risks, and how to integrate this information into local government planning to improve community resilience.

Through WESTool analysis, Sok San commune in Monduliri and Anlong Chrey commune in Stung Treng identified climate change adaptation and NRM priorities for mainstreaming into new commune development plans for their respective areas. CCA and NRM priorities identified included: reducing runoff and nutrient loads in waterways through forest cover protection; reducing forest fires; establishing additional community forests; strengthening forest co-patrolling; excavating ponds or building rainwater collection tanks; improving public access to climate-related information such as storm warnings; developing disaster preparedness and responsive measures; and training community members on climate-smart agriculture technologies. All activities were integrated into Commune Development Plans.

“We truly thank USAID for providing us such useful training,” said Mr. Ley Phanna, Chief of Planning and Commune Support Office for Thalaborivath District, Stung Treng Province.

“By just clicking on the tools in the WESTool website, we can see potential impacts regarding land use, deforestation, drought or flooding and identify climate change adaptation priorities for mainstreaming into the commune development plans. We are working with people so they are ready to adapt to the impacts of climate change in their communities.”

The project delivered trainings on the importance of forest protection and conservation to members of 19 community forests in the four provinces of the

PLWS. Trained participants learned and improved their knowledge and understanding of key values of forest ecosystem services and consequences of forest loss—including sediment and nutrient load, decreased underground water and increased carbon dioxide emission—by using real examples based on results from the WESTool analysis for six community forests. These trainings enhanced the capacities and efforts of CFMC and CF members to protect and conserve natural resources within their CF areas.

Capacity building for MoE rangers. To strengthen the capacity of MoE rangers across the PLWS, the USAID SFB project provided a series of training session to 104 rangers. Those sessions offered 1) training in the seven articles of the Protected Area Law and regulations relevant to forest ranger duties; 2) practical techniques to implement effective law enforcement, including organizing patrols, safely approaching illegal logging sites, questioning offenders, and how to gather and process evidence; and 3) how to complete legal and evidentiary documents, first aid, and ways to carefully handle seized live wild animals.

Through close collaboration at national and sub-national levels of the Ministry of Environment, the project provided additional training to rangers on global positioning system (GPS) operations for tracking illegal activities and Protected Area Law and regulations. These trainings aimed to build rangers' capacity on patrol techniques and tactics, GPS navigation, and related legal frameworks and regulations, to improve coordination with local authority and local community, and hence, to improve their capacity to effectively and collaboratively enforce the law and protect and conserve natural resources.



“We truly thank USAID for supporting and improving forest protection in Cambodia,” said Mr. Hy Sophal, Deputy Director of Northern Tonle Sap Terrestrial Protected Areas Conservation, Ministry of Environment.

“It is much appreciated to see PLCN and PLFCN members taking part in forest protection activities in the PLWS, and it is important that they are aware of their roles and responsibilities under the existing laws while conducting forest patrols,” added Mr. Hy Sophal.

Capacity building for grassroots networks. The USAID SFB project built the organizational and technical capacity of two grassroots networks—Prey Lang Community Network and Prey Lang Forest Community Network—that are active in patrolling the PLWS with GPS navigation, reporting systems and collaboration with MoE rangers. The project worked with senior officials from the Ministry of Environment to streamline the reporting systems of the PLCN and PLFCN to enable effective reporting and communication between the networks in the PLWS and the Ministry of Environment at provincial and national levels. As a result, cooperation and coordination between national and provincial authorities and grassroots networks has been significantly strengthened. National and provincial authorities are now regularly updated on PLCN and PLFCN activities, which now follow MoE guidelines on forest patrolling and the correct processing of evidence related to forest crimes.

Historic collaboration between the MoE and Prey Lang Community Network (PLCN) on forest patrolling. USAID SFB facilitated a meeting between the MoE and PLCN to strengthen cooperation and effectively involve local communities in the protection of forest resources, especially in Prey Lang Wildlife Sanctuary. The MoE requested to meet with PLCN leaders as they are active in protecting Prey Lang and have become a center of international and national attention; however, their role in natural resource management has never been officially recognized by the Royal Government of Cambodia before. The meeting was attended by participants including MoE senior officers

and PLCN core members representing each of PLWS four provinces. PLCN representatives cited positive and participatory collaborations at the provincial level between Provincial Department of Environment officers and rangers and members of PLCN in their effective joint patrolling activities.

Mr. Kheng Kho, PLCN member in Stung Treng said, *“We are concerned about our security during patrolling activities. We are volunteers to help the law enforcement authorities, so we really need to ensure that our interventions are as effective as possible to stop illegal timber transportation, deforestation activities and land clearing inside the wildlife sanctuary. From now on, we are pleased to work closely with the PDoE rangers and the local authority to improve the forest protection and wildlife conservation.”*

Similarly, in EPL, the project supported close collaboration between Mondulkiri MoE rangers and community patrol teams in patrolling Srepok and Phnom Prich Wildlife Sanctuaries, as well as monthly ranger meetings. This collaborative approach builds and maintains relationships between local communities and provincial authorities, as well as strengthening and widening patrolling activities to respond to the threats of poaching, illegal logging and land clearing.

Quote from:
Mr. Kras Creng,
CF chief at Puloung village, Mondulkiri

“Because our community members are patrolling every day, we have successfully deterred many forest crimes and decreased illegal logging and poaching. But we remain ever-vigilant.”

“USAID has been kind to provide its technical assistance to train our community members. Because of good training, our forest is now protected and our people are now aware and working together to safeguard our resources for the benefit of our community and the entire country.”



Community members join government rangers on a co-patrol of Prey Lang Wildlife Sanctuary

Quote from:
Mr. Prut Khy,
CF patrol Team Leader at Pu Cha village, Mondulkiri

“I am very pleased to see our forests being conserved and made healthy again. We are sincerely thankful to USAID for their kind assistance and good training. We are now knowledgeable with the laws and comfortable dealing with these important issues”

“The forest is essential for our lives and for future generations of the Bunong people, so we need to work diligently to stop deforestation and protect our important forests”

Capacity building for community forest patrollers.

The USAID SFB project provided technical and financial support to community forests located around and inside the PLWS. Fifty conservation agreements were signed with forest communities to provide protection and conservation of wildlife habitat in their CF areas. Through these agreements, the USAID SFB project provided compensation in terms of forest patrol equipment, forest patrol training, and financial assistance for motorbike fuel and administrative record keeping to the CF; and the members implement patrols of their CFs on a regular basis. To build and strengthen their capacity in forest patrolling, community forest patrollers, both men and women, were trained in forest patrol techniques, relevant articles of forestry law, the use of GPS and the spatial monitoring and reporting tool (SMART), and strategies to engage patrol groups with local authorities and FA officers.

Co-patrolling initiative: from pilot to scaling up. The USAID SFB project successfully piloted forest co-patrolling activities in three communes of Thalaborivath district, Stung Treng province, in line with the government Circular No. 5 and other legal frameworks. Co-patrolling guidelines were developed as a mechanism to foster the decentralization of natural resource management and the participation of relevant actors—including provincial, district, commune, and competent authorities and local communities—at sub-national levels. With experience gained in Thalaborivath, the pilot forest co-patrolling was replicated in Thmea commune of Chey Saen district, Preah Vihear province. The forest co-patrolling has proven to be an effective mechanism and is strongly supported by sub-national authorities and local communities and requires more technical and financial supports for wider replication.

“USAID SFB has trained our community members on livelihood improvement, how to effectively patrol our forest and recently provided us with high-quality forest patrol equipment, as well as developed rules and guidelines for co-patrolling. We truly thank USAID for supporting us in protecting the Ent Chey community forest. With this support from USAID, all of our 222 community members in the CFMC team now are able to continue patrolling and a better understanding of forest laws.” Said Mrs. Sam Vansen, Deputy Chief of Koh Ent Chey CF, Kratie.

“These guidelines help us to implement new partnership approaches and to enforce the implementation of the Circular No. 5, which calls for “Necessary Measures for Strengthening Natural Resource Management,” said Mr. Thong Srann, Thalaborivat District Governor.

“These will also support co-patrolling forest activities and integrate co-patrolling activities into the commune development plans and commune investment plans of the three pilot communes in Thalaborivat District,” added Mr. Thong Srann.

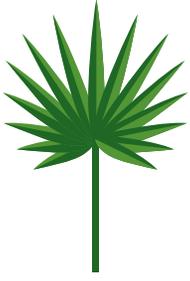
Lessons

Strong relationships and clear roles and responsibilities between community patrolling teams and government rangers, as well as legal support from the Ministry of Environment and local authorities, are crucial for law enforcement in protected areas. Capacity building and technical training on judicial procedures for enforcement officers is crucial to ensure effective field operations. Community forest patrol groups should collaborate and work closely with local authorities, local FA, and MoE rangers to build working relationships to strengthen law enforcement in community forest areas and the PLWS. Community patrol members require frequent refresher training, led, ideally, by the Ministry of Environment. Strong relationships with the Ministry of Environment must be established as part of broader monitoring processes, and jointly planned operations should be encouraged.



POLICY





USAID SFB provided technical support on both the development and piloting of a range of legislative reforms to address critical gaps in institutional arrangements on the management of natural resources. Interventions were designed in close collaboration with government authorities and with community members on the ground to leverage existing legal frameworks to improve the effectiveness of efforts to conserve forests and biodiversity.

Review of Protected Area, Fisheries and Forestry

Laws: USAID SFB has provided technical assistance to the National Committee for Sub-National Democratic Development-Secretariat (NCDD-S) on the revision of the Protected Area, Fisheries and Forestry Laws. Support for this initiative culminated in a national consultation workshop that was held to review the draft amendments of these three laws and obtain feedback from stakeholders. Representatives from several ministries, Prey Lang Community Network as well as local and international NGOs attended the consultation, where participants shared their experiences, provided constructive feedback on the draft amendments of the three laws and offered recommendations for consideration and further action by the inter-ministerial law review team. In addition, guidance was provided on the re-structuring of the roles of sub-national authorities to ensure that they can carry out their natural resource management responsibilities while allowing local communities to participate in implementation.



Decentralization of natural resource management authority under Circular No. 5: USAID SFB collaborated with government and civil society stakeholders to consolidate learning from pilot co-management approaches, such as co-patrolling activities, along with relevant policy recommendations that helped to advance the decentralization of natural resource management under Circular No. 5. The project supported district and national level workshops for participants of forest co-patrol activities to share lessons and recommendations from fieldwork with policy influencers and decision makers.

Development of Co-Patrolling Guidelines. The project facilitated development of draft co-patrolling guidelines that outline specific roles and responsibilities for stakeholder groups, including a list of priority natural resource management functions to be transferred from national to sub-national levels. Furthermore, guidelines for data collection on land encroachment, chainsaws and wooden furniture processing workshops were finalized together provincial authorities for endorsement and implementation. The co-patrolling guidelines provide an officially endorsed framework to support the strengthening of local governance practices and collaborative action between citizens and government to protect Cambodia's natural resources at the grassroots level.

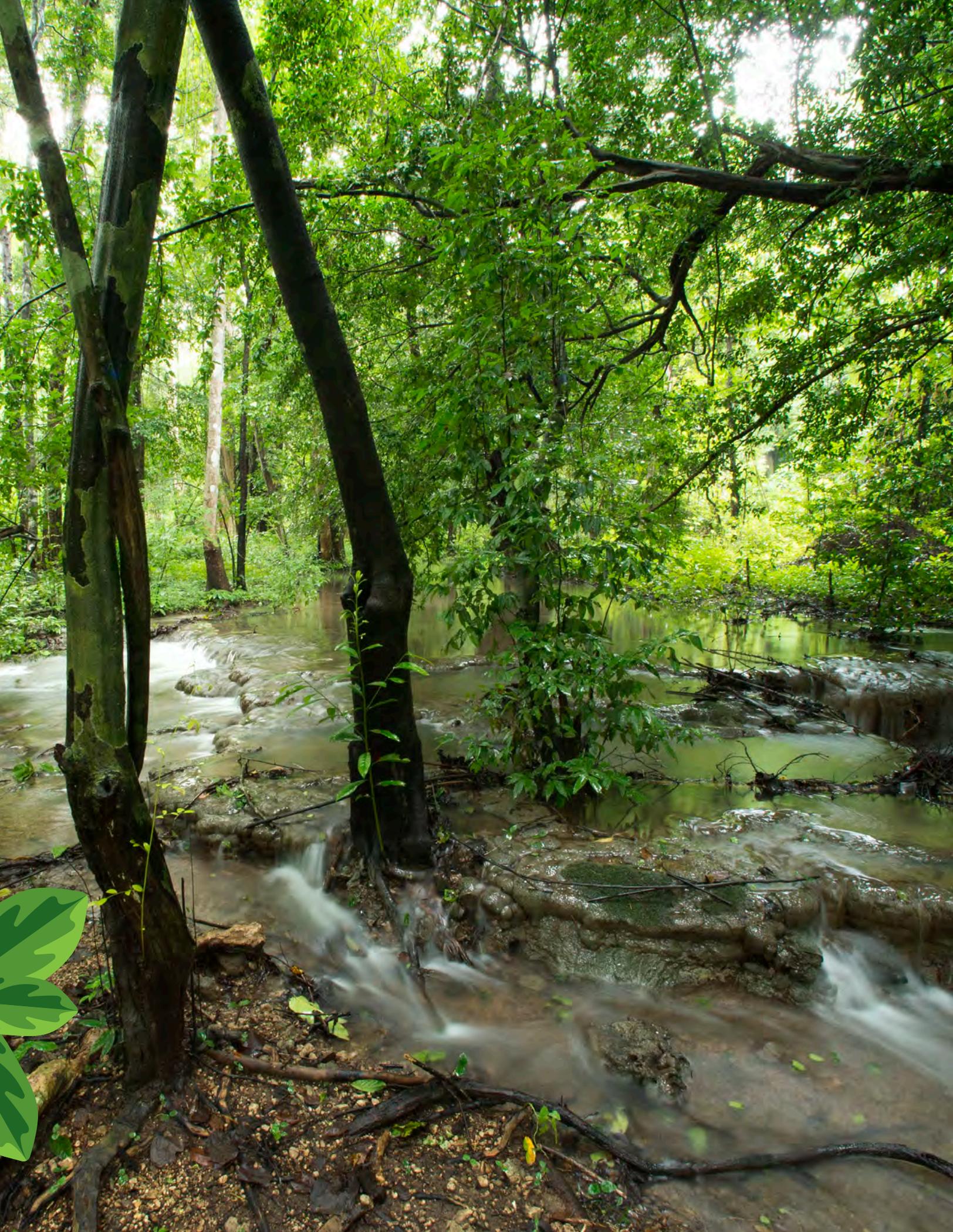
Guidelines for the conversion of Community Forests to Community Protected Areas: In support of recent reforms and transfer of jurisdictional authority, USAID SFB provided technical support to the Ministry of Environment on the conversion of CFs to CPAs inside newly established Protected Areas. The guidelines were based on field-based assessments which were shared with the Department of Community Livelihoods in the Ministry of Environment (MoE), which is responsible for CPA establishment. A stakeholder workshop was convened to review and obtain feedback on the draft guidelines from representatives of Provincial Departments of Environment (PDoE), PA directors, commune councilors, and community members from across both target landscapes, as well as officials from the Department of Community Livelihoods prior to endorsement of the guidelines. These guidelines provide a proven and validated mechanism to assist with consolidation of the protected area estate under the Ministry of Environment.

This enables Community Forests formerly recognized by the Forestry Administration to continue to operate and enjoy the same legal status and recognition, but as a Community Protected Area recognized by the Ministry of Environment.

Lessons

Changes in national policy must be communicated locally. A common challenge to the implementation of any policy in the field is that the various stakeholders are either unaware of recent changes in policy, or they do not have access to adequate information so that they are able to implement the changes necessary. For example, during the transfer of jurisdictional authority from one ministry to another, many sub-national line departments and local authorities were unclear about the implications, which often led to confusion and inertia on implementation. It often fell on the project team to provide relevant information and provide clear direction to communities and stakeholders on the ground on the real-world implications and detail the nature of the reform before activities could take place.





A lush green forest with tall trees and a waterfall in the background. The text "MONITORING AND EVALUATION" is overlaid in white, bold, uppercase letters.

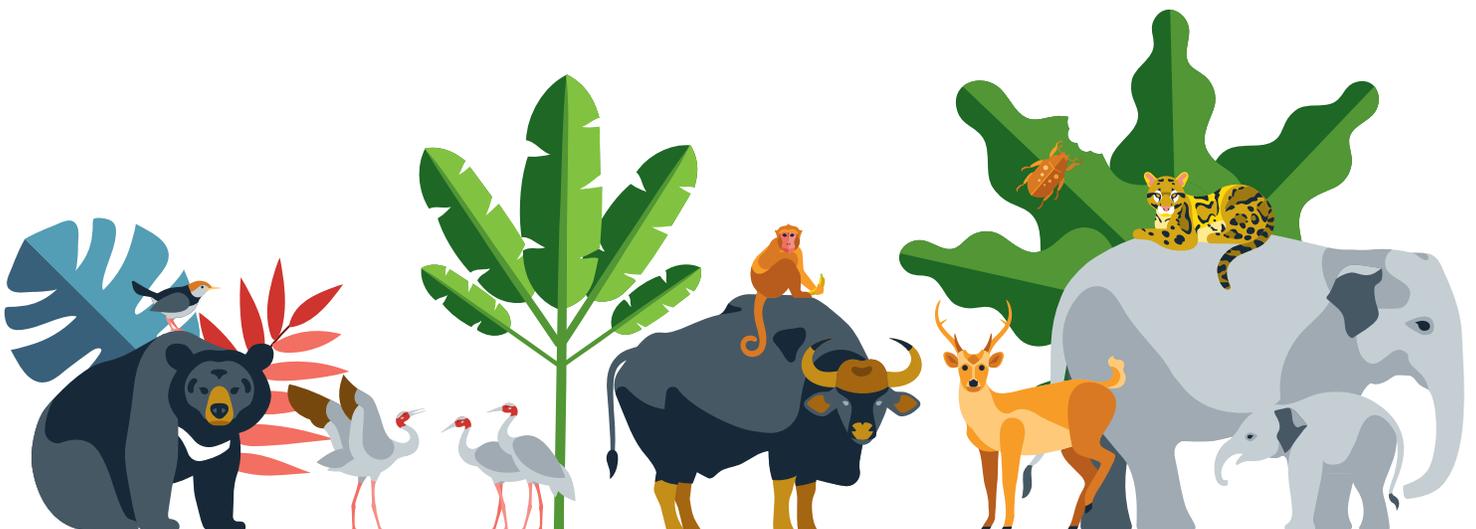
MONITORING AND EVALUATION



USAID SFB's monitoring and evaluation (M&E) system provides a framework for evaluating the project's progress and sharing that progress internally and externally. The system uses a blend of standard and custom indicators to measure outputs and outcomes as a result of project activities. Information generated through the M&E system was used by the senior management team for decision-making and shared with partners to assist them in tracking and achieving their activities. In addition, information was regularly shared with USAID through formal reporting channels as well as with other external stakeholders, such as the Ministry of Foreign Affairs.

M&E plan. The M&E plan describes linkages between the project inputs, activities, and intermediate results; methods for data collection; and specific indicators and targets for measuring success. The plan was periodically revised in line with Winrock's adaptive management approach to remove superfluous or redundant information, clarify indicator definitions, add relevant indicators based on project objectives and/or funding streams (including biodiversity and climate change adaptation), improve effectiveness, and adjust to the operating context.

Further revisions were made to the M&E plan for each project extension period, with new, specific indicator targets based on activities taking place during the extension periods.



M&E Systems and Operations

USAID SFB's M&E systems were developed at the onset of the project and then adapted based on the successes and challenges that the project team experienced.

Database. Early in the project, the USAID SFB team moved from an Excel-based data management system to a web-based database system that could be accessed by different partners and technical staff in different locations. Dedicated M&E staff in partner offices were tasked with data entry and management, enabling effective tracking of indicator targets over time to ensure overall targets were met.

Data Flow. The majority of M&E data was generated by activities in the field. Before an activity started, technical staff created the activity in the database with a title, relevant indicator, location, estimates for number of participants, and estimated budget. Once the activity began, the technical staff reopened the activity record to add documentation such as attendance sheets and actual expenses, and submitted it to their supervisor for approval. Once it was approved, the M&E team reviewed and approved the activity record, or sent it back for further clarification or adjustment, and if necessary created new client profiles to track beneficiaries individually.

Staffing. The M&E staff evolved as dictated by the size and complexity of the project. Initially, one M&E specialist managed the M&E work. Later, as activities generated data, the team added two M&E staff on the provincial level, and a senior M&E advisor at the home office. When needed, the project hired additional labor to conduct data entry to ensure that information was captured in a timely and accurate manner.

Lessons

The initial lesson learned is the importance of documenting and connecting the proposal team to the project team during start-up to communicate M&E expectations. Understanding target-setting rationale is key from the outset, as there is often minimal documentation on how or why targets were initially set. Another important start-up task is the alignment of activities to specific indicators during development

of the first workplan. This will help clarify whether indicators are appropriate early in the project and clarify what will be counted as a contribution towards indicator targets.

In terms of partner management, setting expectations about partner roles in the M&E process is essential. Ensuring partner participation in data collection and entry was an initial challenge, in part due to low partner M&E capacity and the initial view that M&E was beyond their scope of work. Winrock provided supplementary training on M&E systems and data management, as well as including M&E reporting requirements into agreed partner deliverables. Over the course of the project, partners began to see the importance of M&E to USAID, and the necessity for careful activity, output, and outcome tracking. The result was that not only did partners participate more consistently in M&E processes, but some partner organizations asked to replicate USAID SFB systems for use on other projects.

Ensuring consistency of indicator information was critical, as different partners had translated indicator definitions differently resulting in data variation. An agreed translation of the performance monitoring and evaluation plan should be conducted immediately after it is finalized, and any subsequent changes reviewed with partners during regular partner meetings.

Another challenge faced by USAID SFB was facilitating M&E ownership by technical staff. One way to address ownership is to include it in staff job descriptions. It is critical that senior management is also invested in M&E processes and can support the M&E team in getting information from technical staff. By having technical staff invested in M&E, the M&E team can transition from acting as an enforcer to helping the team learn about their results.

M&E data management was a challenge over the life of project due to the complex nature of activities and operations across multiple landscapes. Recently, Winrock switched to an institutional database system, DevResults, that can be used consistently across the organization. This system is designed to be used in low-bandwidth environments and is more agile and intuitive.



ANNEXES

ANNEX I: ACRONYMS

AOA	awareness, ownership and action	MEDIA One	Media for Education and Development in Action
AFD	Action for Development	MFV	Mondulkiri Forest Venture
AFOLU	agriculture, forests and other land use	MLMUPC	Ministry of Land Management, Urban Planning and Construction
BGV	Bambusa Global Ventures	MoE	Ministry of Environment
CA	conservation agreement	MoEYS	Ministry of Education, Youth and Sport
CCA	climate change adaptation	NCDD-S	National Committee for Sub-National Democratic Development-Secretariat
CDP	commune development plan	NGO	non-government organization
CEPA	Culture and Environment Preservation Association	NPA	natural protected area
CEPF	Critical Ecosystem Partnership Fund	NRM	natural resource management
CF	community forest	NTFP	non-timber forest product
CFL	community forest leader	NTFP-EP	non-timber forest product exchange program
CFMC	community forest management committee	ODC	Open Development Cambodia
CI	Conservation International	PA	protected area
CKAN	comprehensive knowledge archive network	PDoE	Provincial Department of Environment
CO ₂ e	Carbon dioxide equivalent	PES	payment for ecosystem services
CPA	community protected area	PKH	Ponlok Khmer
CRDT	Cambodian Rural Development Team	PLFCN	Prey Lang Forest Community Network
CSO	civil society organization	PLCN	Prey Lang Community Network
CTF	Coming Together for Forests initiative	PLL	Prey Lang landscape
CWR	Common wild relative	PLWS	Prey Lang Wildlife Sanctuary
CWS	Chheab Wildlife Sanctuary (formerly Preah Vihear Protected Forest)	PPWS	Phnom Prich Wildlife Sanctuary
DDF	deciduous dipterocarp forest	PSA	public service announcement
ELC	economic land concession	PVT	Prom Vihear Thor Organization
EPL	Eastern Plans landscape	RECOFTC	Center for People and Forests
EWMI	East West Management Institute	REDD+	reducing emissions from avoided deforestation and degradation
FA	Forestry Administration	RGC	Royal Government of Cambodia
FAC	Forestry Administration Cantonment	SFB	Supporting Forests and Biodiversity
FLO	Forest and Livelihood Organization	SMART	spatial monitoring and reporting tool
GDANCP	General Department for Administration of Nature Conservation and Protection	SVC	Sam Veasna Center for Wildlife Conservation
GDP	gross domestic product	SWS	Srepok Wildlife Sanctuary
GERES	Group for the Environment, Renewable Energy and Solidarity	UNFCCC	United Nations Framework Convention on Climate Change
GHG	greenhouse gas	USAID	United States Agency for International Development
GPS	global positioning system	WA	Wildlife Alliance
ICS	internal control system	WCS	Wildlife Conservation Society
ICT	indigenous communal land title	WESTool	Watershed Environmental Services Tool
INDC	intended nationally determined contribution	WWF	World Wildlife Fund
IUCN	International Union for Conservation of Nature		
IVR	interactive voice response		
LDG	listening and dialogue group		
M&E	monitoring and evaluation		
MAFF	Ministry of Agriculture, Forestry and Fisheries		

ANNEX 2: FULL PARTNER TABLE

Institutions and Organizations Engaged by USAID SFB										
No.	Name of Institution	Location	Type	Level	Year of engagement					
					2012	2013	2014	2015	2016	2017
1	Ministry of Agriculture, Forestry and Fishery/Forestry Administration	Phnom Penh	Gov.	National	x	x	x	x	x	
2	Forestry Administration Cantonment	Kampong Thom	Gov.	Sub-national		x	x	x	x	x
3	Forestry Administration Cantonment	Preah Vihear	Gov.	Sub-national		x	x	x	x	x
4	Forestry Administration Cantonment	Stung Treng	Gov.	Sub-national		x	x	x	x	x
5	Forestry Administration Cantonment	Kratie	Gov.	Sub-national		x	x	x	x	x
6	Forestry Administration Cantonment	Mondulkiri	Gov.	Sub-national		x	x	x	x	x
7	Ministry of Environment/General Department of Administration for Nature Protection and Conservation	Phnom Penh	Gov.	National		x	x	x	x	x
8	Department of Environment	Kampong Thom	Gov.	Sub-national				x	x	x
9	Department of Environment	Preah Vihear	Gov.	Sub-national				x	x	x
10	Department of Environment	Stung Treng	Gov.	Sub-national				x	x	x
11	Department of Environment	Kratie	Gov.	Sub-national				x	x	x
12	Department of Environment	Mondulkiri	Gov.	Sub-national		x	x	x	x	x
	Provincial Administration	Kampong Thom	Gov.	Sub-national		x	x	x	x	x
13	District Administration	Sandan	Gov.	Sub-national		x	x	x	x	x
14	Commune Administration	Meanrith	Gov.	Sub-national		x	x	x	x	x
15	Commune Administration	Sochet	Gov.	Sub-national		x	x	x	x	x
16	Commune Administration	Dang Kambet	Gov.	Sub-national		x	x	x	x	x
17	Commune Administration	Tumring	Gov.	Sub-national		x	x	x	x	x
18	Commune Administration	Sandan	Gov.	Sub-national		x	x	x	x	x
19	District Administration	Santuk	Gov.	Sub-national				x	x	x
20	Commune Administration	Boeng Lvea	Gov.	Sub-national				x	x	x
	Provincial Administration	Kratie	Gov.	Sub-national		x	x	x	x	x
21	District Administration	Sambo	Gov.	Sub-national		x	x	x	x	x
22	Commune Administration	Boeng Cha	Gov.	Sub-national		x	x	x	x	x
23	Commune Administration	Kampong Cham	Gov.	Sub-national		x	x	x	x	x
	Provincial Administration	Preah Vihear	Gov.	Sub-national		x	x	x	x	x
24	District Administration	Rovieng	Gov.	Sub-national		x	x	x	x	x
25	Commune Administration	Ratanak	Gov.	Sub-national		x	x	x	x	x
26	Commune Administration	Reab Roy	Gov.	Sub-national		x	x	x	x	x
27	District Administration	Chey Saen	Gov.	Sub-national		x	x	x	x	x
28	Commune Administration	Putrea	Gov.	Sub-national		x	x	x	x	x
29	Commune Administration	Kyang	Gov.	Sub-national		x	x	x	x	x
30	Commune Administration	Thmear	Gov.	Sub-national					x	x
31	District Administration	Chhaeb	Gov.	Sub-national		x	x	x	x	x
32	Commune Administration	Chhaeb Muoy	Gov.	Sub-national		x	x	x	x	x
33	Commune Administration	Chhaeb Pir	Gov.	Sub-national		x	x	x	x	x
34	Commune Administration	Kampong Sralao Muoy	Gov.	Sub-national		x	x	x	x	x
35	Commune Administration	Kampong Sralao Pir	Gov.	Sub-national		x	x	x	x	x
36	Commune Administration	Sangke Muoy	Gov.	Sub-national		x	x	x	x	x

	Provincial Administration	Stung Treng				x	x	x	x	x
37	District Administration	Thalaborivat	Gov.	Sub-national		x	x	x	x	x
38	Commune Administration	Anlung Chrey	Gov.	Sub-national		x	x	x	x	x
39	Commune Administration	Kaing Cham	Gov.	Sub-national		x	x	x	x	x
40	Commune Administration	O Rei	Gov.	Sub-national		x	x	x	x	x
41	Commune Administration	Preah Romkel	Gov.	Sub-national		x	x	x	x	x
42	Commune Administration	Sam Ang	Gov.	Sub-national		x	x	x	x	x
43	Commune Administration	Chamka Leu	Gov.	Sub-national		x	x	x	x	x
44	Commune Administration	Anlung Phe	Gov.	Sub-national		x	x	x	x	x
45	District Administration	Siembok	Gov.	Sub-national		x	x	x	x	x
46	Commune Administration	Siembok	Gov.	Sub-national		x	x	x	x	x
	Provincial Administration	Mondulkiri	Gov.	Sub-national		x	x	x	x	x
47	District Administration	Koh Nhaek	Gov.	Sub-national		x	x	x	x	x
48	Commune Administration	Royor	Gov.	Sub-national		x	x	x	x	x
49	Commune Administration	Srae Huy	Gov.	Sub-national		x	x	x	x	x
50	Commune Administration	Sok Sant	Gov.	Sub-national		x	x	x	x	x
51	Commune Administration	Nong Khy Loek	Gov.	Sub-national		x	x	x	x	x
52	District Administration	Pichreada	Gov.	Sub-national		x	x	x	x	x
53	Commune Administration	Srae Ampoum	Gov.	Sub-national		x	x	x	x	x
54	Commune Administration	Bou Sra	Gov.	Sub-national		x	x	x	x	x
55	Commune Administration	Pou Chrey	Gov.	Sub-national		x	x	x	x	x
56	Commune Administration	Krang Tes	Gov.	Sub-national		x	x	x	x	x
57	District Administration	Keo Seima	Gov.	Sub-national		x	x	x	x	x
58	Commune Administration	Memang	Gov.	Sub-national		x	x	x	x	x
59	Commune Administration	Chong Phlas	Gov.	Sub-national		x	x	x	x	x
60	Commune Administration	Srae Chhouk	Gov.	Sub-national		x	x	x	x	x
61	Commune Administration	Srae Khtum	Gov.	Sub-national		x	x	x	x	x
62	Commune Administration	Srae Preah	Gov.	Sub-national		x	x	x	x	x
63	District Administration	Senmonorom	Gov.	Sub-national		x	x	x	x	x
64	Commune Administration	Romanea	Gov.	Sub-national		x	x	x	x	x
65	District Administration	O Reang	Gov.	Sub-national		x	x	x	x	x
66	Commune Administration	Senmonorom	Gov.	Sub-national		x	x	x	x	x
NGO Name										
67	World Wide Fund for Nature (WWF)	Phnom Penh, Mondulkiri	NGO	International	x	x	x	x	x	x
68	Wildlife Conservation Society (WCS)	Phnom Penh, Mondulkiri, Preah Vihear	NGO	International	x	x	x	x	x	x
69	East West Management Institute (EWMI)+ODC	Phnom Penh, Kratie, Kampong Thom, Preah Vihear, Stung Treng	NGO	International	x	x	x	x	x	
70	The Center for People and Forests/Regional Community Forestry Training Center (RECOFTC)	Phnom Penh, Kratie, Kampong Thom, Preah Vihear, Stung Treng, Mondulkiri	NGO	International	x	x	x	x	x	x
71	Pact Cambodia (Pact)	Nationwide	NGO	International			x	x	x	x
72	Conservation International (CI)	Kratie, Kampong Thom, Preah Vihear, Stung Treng	NGO	International				x	x	

73	Wildlife Alliance (WA)	Kratie, Kampong Thom, Preah Vihear, Stung Treng, Mondulkiri	NGO	International				x	x	x
74	Group for the Environment, Renewable Energy and Solidarity (GERES)	Kratie, Kampong Thom, Preah Vihear, Stung Treng	NGO	International				x	x	
75	Action For Development (AFD)	Kampong Thom	NGO	Local				x	x	
76	Community Economic Development (CED)	Kratie	NGO	Local			x	x		
77	Cambodian Rural Development Team (CRDT)	Kratie	NGO	Local			x	x	x	
78	Culture and Environment Preservation Association (CEPA)	Stung Treng	NGO	Local				x	x	
79	Community Empowerment and Development Team (CEDT)	Phnom Penh, Kratie, Kampong Thom, Preah Vihear, Stung Treng, Mondulkiri	NGO	Local					x	
80	Forest and Livelihood Organization (FLO)	Kratie	NGO	Local			x	x	x	
81	Ponlok Khmer (PKH)	Preah Vihear	NGO	Local			x	x	x	
82	Prom Vihear Thor Organization (PVT)	Stung Treng	NGO	Local			x	x	x	
83	Cambodian NTFP Development Organization (CANDO)	Mondulkiri	NGO	Local			x	x		
84	Elephant Livelihood Initiative Environment (ELIE)	Mondulkiri	NGO	Local			x	x		
85	Mondulkiri Indigenous Peoples Association for Development (MIPAD)	Mondulkiri	NGO	Local			x	x		
86	Mlup Baitong (MB)	Kratie, Kampong Thom, Preah Vihear, Stung Treng, Mondulkiri	NGO	Local			x	x	x	x
87	Media One (Media One)	Nationwide	NGO	Local			x	x	x	
	Community Based Organization									
88	Prey Lang Community Network (PLCN)	Kampong Thom, Preah Vihear, Stung Treng, Kratie	CBO	Local					x	x
89	Prey Lang Forest Community Network (PLFCN)	Kampong Thom	CBO	Local					x	x

ANNEX 3: USAID SFB COMMUNICATIONS MATERIALS

USAID SFB communications materials distributed during the life of the project included:

- 23 videos and TV reportages produced and broadcast
- 19 environment television shows, “Make it Beautiful,” that USAID SFB funded for Cambodia televisions:
<https://www.facebook.com/MakeItBeautifulCambodia/?fref=ts>
- Published full episodes of Season 1 on the USAID SFB Youtube Page including:
<https://www.youtube.com/watch?v=BmaRyauSy7U&t=35s>
<https://www.youtube.com/watch?v=rhgXSwCgle4&t=4s>
<https://www.youtube.com/watch?v=Kni2QJ3hEdQ>
<https://www.youtube.com/watch?v=vFuL5CVzGJA>
- 120 USAID SFB project snapshots (shared every week)
- 100 USAID SFB photo captions (shared every week)
- 7 newsletters (trimester)
- 10 press releases
- A series of radio programs broadcasting on USAID SFB activities
- Five masterpiece music videos (MV) Chis Kong, Chapey song, Grandfather Prey Lang, Prey Lang film and audio sound clip of wildlife in Prey Lang)
- A music video song “Golden Land” to promote forest protection and biodiversity conservation
- 2 big promotional banners of the five masterpieces displayed to the public
- Leaflets on the ecotourism site Reaskmey Phoumpi Kiri Boeung Kranhak
- Signboards on the ecotourism site Reaskmey Phoumpi Kiri Boeung Kranhak
- Signboards on Koh Dambang community-based ecotourism
- 6 digital posters (people, wildlife and nature), displayed in many cinemas in Phnom Penh
- 15 USAID SFB photo banners
- 4 banners to promote community forests
- 2 posters: anti-bush meat and anti-wildlife poaching
- Prey Lang Biodiversity Assessment report
- Promotional booklet highlighting the biodiversity values of Prey Lang
- Training manual on NTFP-based livelihoods
- A training manual on climate change adaptation for community forests
- USAID SFB WESTool online:
<http://winrock.maps.arcgis.com/apps/MapSeries/index.html?appid=4bcbc2199d024320b142fa5c40a9f5d2>
- Wildlife footage captured on camera traps shared via social media
- Thousands of copies of eco-school booklets and posters distributed nationwide
- Thousands of copies of anti-chainsaw posters distributed
- Thousands of caps, t-shirts and bags distributed nationwide
- Patrol equipment for community rangers and MoE rangers
- A bird species guide to Prey Lang produced
- A plant species guide to Prey Lang produced
- 40 signboards for demarcation of protected areas
- Documentary production – “A Cambodia Nature Film” (3 month-campaign by Fauna in Focus)
 - Siem Reap World Premiere Festival in March
 - Earth Day events annually every April
 - Public cinema screenings (schools, super markets) 4x trailers for 2 months.
 - Cultural center screenings
 - Online distribution campaign
- Distributing patrol equipment to 140 government rangers, 200 members of Prey Lang Community Network and 30 members of Prey Lang Forest Community Network, as part of support from the USAID SFB on the law enforcement in Prey Lang and Eastern Plain landscapes.



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